

93

65 B8

LEVEL BOOK.

410.

BA

BRADSHAW MOUNTAIN RAILROAD

~~~~~ BIG BUG BRANCH ~~~~~

Construction Notes

Book No 1

Work begun Sept 13-1901

Completed April 24-1902

Pa

1 to 2

22 to

2

2

2

2

2

30 to

4

5

5

5

54 to

63 to

76 to

7

7

7

8

8



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| 1 to 21 inc.  | 0-2+85 to 53+10                          | Cross sections                  |
| 22 to 23 "    | <sup>1+75 Main line =</sup><br>2 to 7+90 | Poland Spur "                   |
| 24 to 25 inc. |                                          | Mill " "                        |
| 25            |                                          | Slope Wall - Rip Rap - Clearing |
| 26            |                                          | Turn Table Spur                 |
| 27            |                                          | Wagon Roads.                    |
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| 49            |                                          | Block Spur                      |
| 50            |                                          | Cart Road around Tunnel         |
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| 80            | " Siding                                 | " "                             |
| 80            | Mill Spur - Poland                       | " "                             |

# Section 1

Station Grade

L C R

- 2+85 6179.78

$\frac{+3.7}{8.8}$  +0.4  $\frac{0.0}{5.0}$   $\frac{+1.0}{8.3}$

+65

$\frac{+3.7}{8.9}$  +0.6  $\frac{0.0}{8.0}$

+40

$\frac{+0.9}{8.2}$   $\frac{0.0}{4.0}$  -0.9  $\frac{0.0}{6.0}$   $\frac{+0.5}{8.1}$

-2

$\frac{+1.8}{8.5}$  +0.6  $\frac{+2.3}{8.6}$

-1+75

$\frac{0.0}{8.0}$  +1.0  $\frac{+1.3}{6.0}$   $\frac{+3.6}{8.9}$

+50

$\frac{-2.6}{10.9}$   $\frac{0.0}{2.5}$  +2.0  $\frac{+3.8}{9.0}$

1 + 15 6174.06

$\frac{-1.8}{9.7}$   $\frac{0.0}{6.0}$  +3.6  $\frac{+6.4}{9.6}$

-0+70

$\frac{0.0}{8.0}$  -2.5  $\frac{0.0}{8.0}$

+65

$\frac{+3.0}{8.8}$   $\frac{+2.7}{3.0}$  +1.6  $\frac{0.0}{1.5}$   $\frac{-4.7}{9.0}$   $\frac{-2.8}{11.2}$

+50

$\frac{+2.3}{8.6}$   $\frac{0.0}{1.0}$  -0.8  $\frac{-3.1}{4.0}$   $\frac{-4.1}{13.2}$

+26 6170.50



| Areas. |      | Cub. yds. |      |
|--------|------|-----------|------|
| Exc.   | Emb. | Exc.      | Emb. |
| 17.06  |      |           |      |
|        |      | 13.7      |      |
| 19.87  |      |           |      |
|        |      | 10.3      | 1.4  |
| 23.0   | 4.50 |           |      |
|        |      | 17.7      | 2.2  |
| 21.53  |      |           |      |
|        |      | 17.6      |      |
| 16.39  |      |           |      |
|        |      | 19.9      | 1.8  |
| 26.70  | 5.85 |           |      |
|        |      | 52.1      | 4.4  |
| 53.68  | .90  |           |      |
|        |      | 29.8      | 17.4 |
|        | 2000 |           |      |
|        |      | 1.4       | 3.7  |
| 22.98  | 2000 |           |      |
|        |      | 8.6       | 13.5 |
| 8.05   | 2861 |           |      |
|        |      | 7.7       | 8.5  |
|        |      | 178.8     | 52.9 |

# Section 1

Station Grade

L C R

0 6169.46  $\frac{+1.1}{8.3}$  +0.6  $\frac{0.0}{8.0}$

+10  $\frac{+4.5}{10.1}$  +2.9  $\frac{0.0}{8.0}$

+35  $\frac{+5.9}{14.5}$  +2.8  $\frac{+2.6}{8.7}$

+65  $\frac{+9.3}{17.8}$  +3.5  $\frac{+2.4}{8.6}$

+80  $\frac{+8.8}{22.2}$  +6.5  $\frac{+3.5}{8.9}$

1 +20  $\frac{+5.6}{27.9}$   $\frac{+6.3}{24.0}$  +3.0  $\frac{+1.7}{8.4}$

+30  $\frac{+4.8}{28.2}$  +2.3  $\frac{0.0}{8.0}$

Deduct for Wash 2x10x25=18.0

+50  $\frac{+2.5}{33.6}$   $\frac{0.0}{10.0}$  -4.0  $\frac{13.0}{13.0}$

+75  $\frac{+3.0}{39.8}$   $\frac{+2.0}{31.0}$   $\frac{0.0}{8.0}$  -0.6  $\frac{-4.9}{14.4}$

Start Main Spur

616246



Areas. Cub. yds.  
Exc. Emb. Exc. Emb.

9.29

178.8

Cut was taken back only

100-2+65

37.2 0-2+65 to 1+75

46.49

Exc 854.5 Cut.

59.1 from 2+65 to 1+75

81.23

Class S.R. = 45.6 Cy.

-1+75 to 1+75 = 808.9

123.3 class 15% S.R. = 121.3

140.68

80% S.R. = 687.6

Total Solid Rock = 166.9 Cy.

95.5 " Loose " 687.6

203.07

Haul 270 yds from 1+10

261.7 270 feet into side track  
= 730 yds haul

150.29

47.5

106.43 0.0

NOTE: — Where  
not otherwise noted  
all backfilling was  
made from material  
left in cuts.

50.1

5.2

28.75 20.90

33.6 19.6

43.80

0.0

21.47

deduct

886.8

18.6

868.2

less

13.7

854.5

37.5

not taken out

62.3

Station Grade

Section 1

L C. R

1 + 96 6161.66

2 + 02 Too

+ 11 6161.02 ✓

2 + 34 Too

2 + 45 1B

+ 50

+ 90

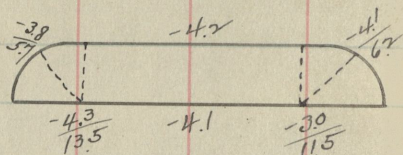
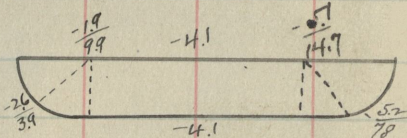
3 + 15

+ 50

+ 79.8 6154.89

4

+ 70 6151.29



$\frac{4.5}{13.8}$

- 3.8

$\frac{2.0}{10.6}$

$\frac{-3.8}{12.7}$

- 0.3

$\frac{0.0}{8.0}$

$\frac{0.0}{8.0}$

+ 0.9

$\frac{+2.5}{8.6}$

$\frac{-0.8}{8.2}$

$\frac{0.0}{2.5} + 0.9$

$\frac{+3.3}{8.8}$

$\frac{+1.0}{8.3}$

+ 2.9

$\frac{+5.2}{9.3}$

$\frac{+3.6}{8.9}$

+ 5.1

$\frac{+6.5}{9.6}$



Areas. Cub. yds.  
Exc. Emb. Exc. Emb.

00 74.93 67.3 Sta 1430 to 2402  
8.3 Cub 706 made  
from cut west.

70.6

8.5

76.75

Sta 2439 to 4

13.3 Cub 904 made  
from cut East

66.70

61.6

00

16.41

5.4

5.1

17.47

00

23.2

0.8

18.29

1.80

6.35

1.1

5032

00

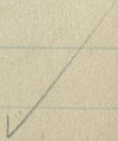
90.4

178.7

87.57

141.6

412.4



# Section 1

Station Grade

L C R

1 5 + 40 6148.47

$\frac{+0.8}{8.2}$

+1.3

$\frac{+1.9}{8.5}$

2

+ 80

$\frac{+1.0}{8.3}$

+1.6

$\frac{+2.1}{8.5}$

2

6 + 25

$\frac{0.0}{8.0}$

+0.9

$\frac{+1.7}{8.4}$

2

+ 35

$\frac{-1.4}{9.1}$

-1.4

$\frac{0.0}{5.5}$

$\frac{+0.5}{8.1}$

$\frac{+1.2}{15.0}$

+ 75

$\frac{-5.1}{18.6}$

0.0

$\frac{+1.0}{8.3}$

$\frac{+3.5}{18.0}$

7

-4.0

$\frac{-5.9}{22.9}$

$\frac{-5.0}{14.0}$

$\frac{0.0}{5.0}$

$\frac{+2.7}{8.7}$

$\frac{+3.5}{24.0}$

+ 25

$\frac{-7.8}{31.7}$

$\frac{-6.4}{22.0}$

$\frac{-1.4}{13.0}$

$\frac{0.0}{6.0}$

+1.0

$\frac{+1.3}{8.3}$

$\frac{+2.4}{24.0}$

+ 40 = 1st M. Spur

$\frac{-7.2}{32.8}$

$\frac{-2.3}{18.0}$

$\frac{-2.0}{10.0}$

-1.8

$\frac{0.0}{8.0}$

$\frac{0.0}{24.0}$

+ 75

$\frac{-3.6}{12.4}$

-3.0

$\frac{-2.0}{10.0}$

1/4 : 1 slope.

8 + 15 6137.47

$\frac{-7.2}{16.0}$

-4.3

$\frac{-3.9}{11.9}$



| Areas. |       | Cub. yds. |                                  |
|--------|-------|-----------|----------------------------------|
| Exc.   | Emb.  | Exc.      | Emb.                             |
| 2166   |       | 412.4     | Sta 2+90 to 7+40.                |
|        |       | 35.1      | Exp 618.6 Cuyds.                 |
| 25.84  |       |           | Class 25% to R - 154.6 Cy.       |
|        |       |           | 75% Earth 464.0 "                |
| 14.18  | 0.0   | 33.3      | 1 haul 8 v. n mat free           |
|        |       |           | " 1364 Earth "                   |
|        |       |           | " 400 ft m 4 + 75% 8 + 25 = 1400 |
|        |       | 3.7       | 1.9                              |
| 6.32   | 15.12 | 22.8      | 32.2                             |
| 24.40  | 28.35 | 46.2      | 33.8                             |
| 75.41  | 44.74 | 53.8      | 50.0                             |
| 40.86  | 63.24 | 11.3      | 38.4                             |
| 0.0    | 74.82 |           | Sta 7+60 to 9+05                 |
|        | 23.20 | 618.6     | 49.4 Borrows for Road            |
|        |       |           | Crossing Sec P 55,               |
|        | 53.20 |           | Loose Rock 240.9 Cy.             |
|        |       | 112.6     | Solid " 80.3 "                   |
| 98.83  |       |           |                                  |
|        |       | 270.8     |                                  |
|        |       | 589.1     |                                  |

# Section 1

Station Grade

L

C

R

8 + 6.5

$$\begin{array}{r} -9.0 \\ \hline 18.3 \end{array}$$

-10.1

$$\begin{array}{r} -6.0 \\ \hline 4.0 \end{array} \quad \begin{array}{r} -5.4 \\ \hline 13.8 \end{array}$$

+ 66 0 6135.36

+ 85

$$\begin{array}{r} -10.8 \\ \hline 20.5 \end{array}$$

$$\begin{array}{r} -12.1 \\ \hline 8.0 \end{array}$$

-4.5

$$\begin{array}{r} -4.1 \\ \hline 12.1 \end{array}$$

9 + 17

$$\begin{array}{r} -5.0 \\ \hline 13.3 \end{array}$$

-1.1

$$\begin{array}{r} 0.0 \\ \hline 8.0 \end{array}$$

+ 33

$$\begin{array}{r} -5.6 \\ \hline 14.0 \end{array}$$

$$\begin{array}{r} 0.0 \\ \hline 5.0 \end{array}$$

+ 10

$$\begin{array}{r} +5.2 \\ \hline 9.3 \end{array}$$

+ 36

$$\begin{array}{r} 0.0 \\ \hline 8.0 \end{array}$$

+ 1.8

$$\begin{array}{r} +10.5 \\ \hline 10.6 \end{array}$$

+ 75

$$\begin{array}{r} +6.1 \\ \hline 9.5 \end{array}$$

+ 8.3

$$\begin{array}{r} +18.0 \\ \hline 12.5 \end{array}$$

+ 90

$$\begin{array}{r} +8.0 \\ \hline 10.0 \end{array}$$

$$\begin{array}{r} +8.0 \\ \hline 6.0 \end{array}$$

+ 11.6

$$\begin{array}{r} +21.6 \\ \hline 13.4 \end{array}$$

+ 93

$$\begin{array}{r} +8.6 \\ \hline 10.2 \end{array}$$

$$\begin{array}{r} +8.6 \\ \hline 8.0 \end{array}$$

+ 12.0

$$\begin{array}{r} +20.0 \\ \hline 13.0 \end{array}$$

$$\begin{array}{r} +39.2 \\ \hline 11.0 \end{array}$$

$$\begin{array}{r} +39.2 \\ \hline 17.8 \end{array}$$

10 + 0.5

$$\begin{array}{r} +9.4 \\ \hline 10.4 \end{array}$$

$$\begin{array}{r} +10.0 \\ \hline 4.0 \end{array}$$

+ 14.3

$$\begin{array}{r} +20.0 \\ \hline 5.0 \end{array}$$

$$\begin{array}{r} +31.0 \\ \hline 7.0 \end{array}$$

$$\begin{array}{r} +38.0 \\ \hline 17.5 \end{array}$$

+ 20 6129.60

$$\begin{array}{r} +10.8 \\ \hline 10.7 \end{array}$$

$$\begin{array}{r} +11.3 \\ \hline 8.0 \end{array}$$

+ 17.6

$$\begin{array}{r} +19.3 \\ \hline 3.0 \end{array}$$

$$\begin{array}{r} +33.4 \\ \hline 16.4 \end{array}$$

Add for boulders. 3 yds.



Areas. Cub. yds.

Exc. Emb. Exc. Emb.

589.1

193.61

Sta 6+25 to 9+36.

137.7 Emb 860.2

178.22

254.5 made from

122.9 Mill Spur

590.0 from Cut West

00

29.21

balance from Cut East

5.5

10.3

27.95

5.60

4.8

0.2

58.74

00

860.2

178.0 Sta 9+17 to 11+53

187.70

Exc. 2250.1 Cub yds.

Class Solid Rock

120.7

Haul 800 cy. mat for

246.92

" 400 " Cat for

" 300 " " 136 = 390

31.2

" 1320 " " 350 into

crush bed = 4690

315.14

Total Haul 5080

176.5

417.90

226.9

399.02

3.0

517.9

1264.5

# Section 1.

Station Grade

10 + 55 612829

|                      |                             |                      |
|----------------------|-----------------------------|----------------------|
| L                    | C                           | R                    |
| $\frac{+11.8}{11.0}$ | $\frac{+12.1}{10.0} + 18.9$ | $\frac{+27.5}{14.9}$ |

+ 90

|                      |                            |                      |
|----------------------|----------------------------|----------------------|
| $\frac{+10.0}{10.5}$ | $\frac{+10.6}{8.0} + 16.3$ | $\frac{+23.0}{13.8}$ |
|----------------------|----------------------------|----------------------|

11 + 25

|                    |                          |                      |
|--------------------|--------------------------|----------------------|
| $\frac{+4.0}{9.0}$ | $\frac{+8.6}{4.0} + 8.7$ | $\frac{+11.8}{11.0}$ |
|--------------------|--------------------------|----------------------|

+ 40

|                   |       |                    |
|-------------------|-------|--------------------|
| $\frac{0.0}{8.0}$ | + 4.1 | $\frac{+6.4}{9.6}$ |
|-------------------|-------|--------------------|

+ 53

|                     |                          |                   |
|---------------------|--------------------------|-------------------|
| $\frac{-4.3}{12.4}$ | $\frac{-3.6}{7.0} - 0.5$ | $\frac{0.0}{8.0}$ |
|---------------------|--------------------------|-------------------|

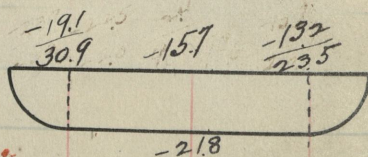
11 + 56 612446

+ 80

|                     |       |                     |
|---------------------|-------|---------------------|
| $\frac{-8.4}{17.5}$ | - 9.9 | $\frac{-8.0}{17.0}$ |
|---------------------|-------|---------------------|

12 + 10

- 7.00



12 + 37 TOE

12 + 79 611954

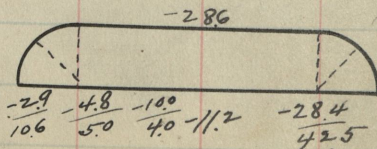
12 + 81

- 3.80

TOE

611804

13 + 18 H.B.

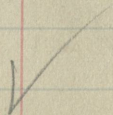


27  
800



| Areas  |        | Cub. yds. |       |
|--------|--------|-----------|-------|
| Exc.   | Emb.   | Exc.      | Emb.  |
| 400.06 |        | 1264.5    |       |
|        |        | 470.1     |       |
| 325.32 |        | 314.0     |       |
| 159.15 |        | 61.3      |       |
| 61.68  | 0.0    | 10.0      | 4.2   |
| 0.0    | 26.07  | 2119.9    |       |
|        |        | 130.2     | 59.   |
|        |        | 2250.1    | 127.1 |
|        | 228.18 |           |       |
|        |        | 426.8     |       |
|        | 540.09 | 270.0     |       |
|        |        | 828.1     |       |
|        |        | 269.2     |       |
|        | 403.54 |           |       |

Sta 11+40 to 12+37  
 Emb 828.1 made  
 from Cut West-



# Section 1

Station Grade

L C R

12 + 00

-21.5  
32.1 -21.7 -27.1  
33.8

12 + 20

27.3 30.0  
10.6 5.0 4.0 11.2 4.5

16' R.B. 1/4:1 slope.

13 + 30 6117.67

0.0  
8.0 -47 -14.4  
25.0

+50

+9.8  
10.5 +37 0.0  
8.0  
Add for boulder  $7 \times 7 \times 9 = 16.3$

+70

+17.9  
12.5 +11.9 +5.6  
9.4

+82

+23.7  
13.9 +14.7 +8.0  
10.0

+95

+25.5  
14.4 +20.5 +17.8 +16.0  
11.0 12.0

14 + 05

+27.0  
14.8 +19.7 +12.3  
11.1  
Add for boulders.  $4 \times 8 \times 12$   
 $3 \times 3 \times 3$  } 15.3

+25

+22.5  
13.6 +19.0 +11.0  
10.8

+50 6113.23

+20.0  
13.0 +13.6 +8.7  
10.2



Areas. Cub. yds.  
Exc. Emb. Exc. Emb.

269.2

1350.0

1085.5

98.4

0.0

127.95

18.1

31.6

734.3

16.3

399.2

110.3

224.31

Sta 13+30 to 16+75

117.1

Exc 2562.7 Cul.

302.47

Slips 600.3 " " 500.56  
Clear slips  $\frac{1}{2}$  L.R. = 300.2 cu.

180.0

Balance of cut Solid Rock = 2262.5

1445.15

Haul 6930. L.R. 56

158.8

412.32

15.3

288.2

365.80

295.5

272.56

267.5

1467.1

made from cut east

Station Grade

Section 1

14 + 80  
+ 81<sup>5</sup>  
6112.09

L C R  
 $\frac{+17.0}{12.3}$  +10.5  $\frac{+6.5}{9.6}$

15 + 35  
+ 73<sup>-4.00</sup>  
6108.43

$\frac{+6.2}{9.6}$  +2.7  $\frac{0.0}{8.0}$

16 + 15  
+ 75

$\frac{+4.0}{9.0}$  +0.4  $\frac{0.0}{2.0}$   $\frac{-5.2}{13.5}$

16 + 15  
-3.67

$\frac{+2.5}{8.6}$   $\frac{0.0}{2.0}$  -1.0  $\frac{-5.6}{14.0}$

+ 60

$\frac{+1.1}{8.3}$   $\frac{0.0}{4.0}$  -2.0  $\frac{-7.8}{13.0}$   $\frac{-8.6}{17.8}$

+ 63<sup>0</sup>  
6105.13

+ 75

$\frac{0.0}{8.0}$  -1.7  $\frac{-7.7}{16.6}$

17

$\frac{0.0}{8.0}$  -4.4  $\frac{-5.0}{11.0}$   $\frac{-8.4}{17.5}$

+ 25<sup>0</sup>  
-3.33

$\frac{-2.6}{10.3}$  -2.9  $\frac{-10.0}{19.5}$

+ 50

$\frac{-1.5}{8.9}$  -4.4  $\frac{-10.1}{19.6}$

+ 95<sup>0</sup>  
6100.70

$\frac{-5.8}{14.3}$   $\frac{-8.8}{11.0}$  -10.1  $\frac{-26.6}{40.3}$



Areas Cub. yds.  
Exc. Emb. Exc. Emb.

208.99. 1467.1

262.3

48.56 00

49.4 6.4

18.20 13.00

19.0 30.1

Sta 15 to 22

Borrow for Roadmaking

129.8 Cub Yds L.R.

See Page 56

7.50 27.60

8.1 73.5

2.20 60.62

0.4 30.1

0.0

47.86

1806.3

156.1 S.S.

Slips.

600.3

See Page 56  
54.0

2562.7

68.75

72.3

87.31

88.2

103.30

422.3

403.48

460.0

1206.9

# Section 1

Station. Grade

L C R

18 + 35

$\frac{-35}{11.4}$

-7.2

$\frac{-17.4}{28.7}$

45' End Wall  
Top of wall  
24.0 below  
Grade

+40 <sup>1</sup> 6099.16

+60

$\frac{-32}{11.0}$

-9.3

$\frac{-24.6}{35.5}$

Wall 4.6  
3/4: 1 Slope

19

-3.67

$\frac{-4.9}{13.1}$

-10.2

$\frac{-30.5}{39.8}$  Wall 10.5  
3/4: 1

+30

$\frac{-4.7}{12.9}$

$\frac{-4.5}{5.0}$  -8.3

$\frac{-30.4}{39.8}$  Wall 10.4  
3/4: 1

+30.7 6095.86

-4.00

+55

$\frac{-3.0}{10.8}$

$\frac{-5.0}{8.0}$  -5.2

$\frac{-20.5}{32.6}$

45' End  
of wall.

+48 6095.17

+80

$\frac{0.0}{8.0}$

-5.0

$\frac{-5.5}{8.0}$

$\frac{-12.3}{22.3}$

+95

$\frac{+3.2}{8.8}$

$\frac{0.0}{1.0}$  -0.6

$\frac{-5.6}{6.0}$

$\frac{-6.0}{14.6}$

20 + 10

-3.67

$\frac{+6.1}{9.5}$

+2.3

$\frac{0.0}{5.0}$

$\frac{-4.3}{12.4}$

+15

$\frac{+8.1}{10.0}$

+3.6

$\frac{0.0}{8.0}$

+38 6091.87



Areas. Cub. yds.

Exc. Emb. Exc. Emb.

|                                                                      |       |        |               |                                                   |
|----------------------------------------------------------------------|-------|--------|---------------|---------------------------------------------------|
| 45' End<br>of wall<br>4.0 below<br>Grade<br>Wall 4.6<br>3/4: 1 Slope |       | 217.51 | 1.236.9       | Sta 15+35 to 20+15                                |
| 3/11 10.5<br>3/4: 1                                                  |       | 336.03 | 256.3         | Emb 2991.6                                        |
| 3/11 10.4<br>3/4: 1                                                  |       | 446.93 | 579.9         | 2639, made from<br>Cut max<br>352.6 from Cut East |
| 45' End<br>of wall                                                   |       | 378.04 | 458.3         |                                                   |
|                                                                      |       |        | 268.9         |                                                   |
|                                                                      |       | 202.81 |               |                                                   |
|                                                                      |       |        | 138.0         |                                                   |
| 0.0                                                                  | 95.23 |        |               |                                                   |
|                                                                      |       | 2.1    | 39.1          |                                                   |
| 11.20                                                                | 45.70 |        |               |                                                   |
|                                                                      |       | 14.5   | 13.9          |                                                   |
| 41.07                                                                | 4.30  |        |               |                                                   |
|                                                                      |       | 9.8    | 0.3           |                                                   |
| 64.80                                                                | 0.0   |        | <u>2991.6</u> |                                                   |
|                                                                      |       | 144.4  |               |                                                   |
|                                                                      |       | 170.8  |               |                                                   |

| Station Grade | Section 1            |                        |                                                          |
|---------------|----------------------|------------------------|----------------------------------------------------------|
|               | L                    | C                      | R                                                        |
| 20 + 40       | $\frac{+17.6}{12.4}$ | +12.4                  | $\frac{+9.0}{10.3}$                                      |
| +38           | 6091.87              |                        |                                                          |
| +65           | $\frac{+27.2}{14.8}$ | +21.3                  | $\frac{14.6}{11.7}$                                      |
| +90           | $\frac{+30.5}{15.6}$ | $\frac{+300}{20}$ +238 | $\frac{18.1}{12.5}$                                      |
| 21 + 20       | $\frac{+30.3}{15.6}$ | +24.4                  | $\frac{+18.7}{12.7}$                                     |
| +60           | $\frac{+28.9}{15.2}$ | +23.4                  | $\frac{+17.9}{12.5}$                                     |
| +80           | $\frac{+27.0}{14.8}$ | +17.1                  | $\frac{+12.4}{11.1}$                                     |
| 22 + 20       | $\frac{+17.6}{12.4}$ | +9.9                   | $\frac{+6.4}{9.6}$                                       |
| +47           | $\frac{+15.2}{11.8}$ | +7.0                   | $\frac{+5.0}{4.5}$ 0.0<br>8.0                            |
| +50           | $\frac{+15.1}{11.8}$ | +7.0                   | $\frac{+1.2}{7.0}$ 0.0<br>8.0                            |
| +70           | $\frac{+11.4}{10.9}$ | +1.0                   | $\frac{0.0}{2.5}$ $\frac{-2.0}{4.5}$ $\frac{-2.0}{10.5}$ |
| 6084.03       |                      |                        |                                                          |

-336



Areas. Cub. yds.  
Exc. Emb. Exc. Emb.

247.14 170.8

322.5

449.43

Sta 19+80 to 25+40

472.1 Total Exc. 48746 Cub. yds

570.45

Slipos - see P. 58 = 799.5 "

also Slipos  $\frac{1}{2}$  to Rock = 399.8 Cu.

617.6 Balance of Cut

Solid Rock = 4474.8 "

541.26

780.0 Haul, see P. 58 = 10680

511.29

329.8

379.05

432.6

204.90

171.4

137.85

14.9

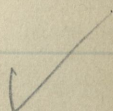
131.00 0.0

67.9 2.6

52.30 10.50

7.6 2.4

3387.2 5.0



# Section 1

Station Grade

L C R

22 + 75 6083.86

$\frac{+10.0}{10.5} \frac{+6.0}{6.5} \frac{0.0}{3.0} -0.6 \frac{-3.2}{11.0}$

+40 End of Wall

23

$\frac{+12.5}{8.6} +0.4 \frac{0.0}{2.0} -13.0 \frac{21.0}{21.0}$

Wall 190

+30 -33.6

$\frac{+5.2}{9.3} +0.4 \frac{0.0}{2.0} -16.2 \frac{27.4}{27.4}$

End of Wall

+50

$\frac{+7.0}{9.8} 0.0 \frac{-11.6}{21.5}$

+73

$\frac{+9.0}{10.2} \frac{0.0}{1.0} -0.6 \frac{-6.8}{15.5}$

+73.3 6080.60

24 + 25 -36.7

$\frac{+11.6}{10.9} +4.4 \frac{0.0}{8.0}$

+63.3 77.30

+65 -40.0

$\frac{+11.6}{10.9} +4.2 \frac{0.0}{6.0} \frac{-1.3}{8.6}$

24 + 85 76.43

+95

$\frac{+6.8}{9.7} +0.9 \frac{0.0}{1.5} \frac{-16.3}{27.4}$

25 + 00 6075.84

25 + 10

$\frac{+6.8}{9.7} +2.2 \frac{0.0}{4.5} \frac{-2.4}{10.0} \frac{-40.0}{57.0}$

End of Wall

+40 6074.24

$\frac{0.0}{8.0} -5.4 \frac{-16.0}{27.0} \frac{-42.2}{59.4} \frac{Wall 22}{1:1}$



Areas. Cub. yds.  
Exc. Emb. Exc. Emb.

30.00 15.40 3387.4 5.0

End of  
Wall

19.5 22.6

Wall 90

12.12 33.50

19.5 41.1

End of  
Wall

23.06 40.50

18.9 30.0

28.00 40.60

25.3 29.5

31.50 28.75

115.1 18.4

87.98 0.0

125.8 0.3

81.89 0.65

63.4 25.3

32.24 44.82

19.0 13.3

End of  
Wall

42.82 3.0

all 22  
1.1

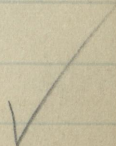
0.0 157.10

159. 89.0

3809.6  
265.559.  
799.5 slips

4874.6 62.6

337.1



# Section 1

Station Grade

25+45 6074.14

+ 69 73.03

+ 82

+ 84 6072.67

+ 95

26+25

+ 35 -3.53

+ 40

27

+ 50

28

+ 35 6063.63

L C R

-1.2 0.0 -55.4 Wall 15.4  
8.5 7.5 -6.2 72.4 1:1

-7.1 -52.8 Wall 12.8  
15.9 -17.7 69.9 1:1

-10.1 -54.0 Wall 14.0  
19.6 -21.6 71.0 1:1

-2.7 -56.8 Wall 16.8  
9.8 -6.8 73.8 1:1

0.0 -4.4 -48.0 Wall 8.0  
8.0 6.5 1:1

16' R.B. 1/2:1 slope.

+0.8 0.0 -43.5 Wall 3.5  
8.4 6.0 -3.5 60.5 1:1  
+50 End of Wall

+12.4  
14.2 +6.5 0.0  
8.0

+13.7  
14.8 +7.9 +4.4  
10.2

+12.7  
14.4 +5.0 +1.4  
8.7

+7.6  
11.8 +2.8 0.0  
8.0



| Areas           | Cub. yds.   |                                                                                                                         |
|-----------------|-------------|-------------------------------------------------------------------------------------------------------------------------|
| Exc. Emb.       | Exc. Emb.   |                                                                                                                         |
| Nall 154<br>1:1 | 518.59      | 337.1 Sta 22+50 to 29<br>Emb'd 3431.2<br>3161.2 made from<br>1064.8 cut west<br>870. from cut east                      |
| Nall 128<br>1:1 | 1035.63     | 555.7                                                                                                                   |
| Nall 140<br>1:1 | 1272.83     | Sta 25+10 to 26+50                                                                                                      |
| Nall 168<br>1:1 | 574.74      | 1026.4 Excavate foundation<br>for slope wall<br>45.0 Cy. S.R.                                                           |
| Nall 80<br>1:1  | 0.0 368.60  | 174.7                                                                                                                   |
| Nall 35<br>1:1  | 0.80 286.12 | 0.1 60.6                                                                                                                |
| End of<br>Wall  | 136.2 211.9 |                                                                                                                         |
|                 | 121.75 0.0  | 3431.2                                                                                                                  |
|                 | 171.15      | 271.2 Sta 26+35 to 29+95 Exp 1059.1<br>Class Slip L.R. 102.4 Cy.<br>from 26+35 to 27+50 Class<br>2p 25 ft. L.R. = 154.0 |
|                 | 114.15      | 264.2 Class balance of cut Solid Rock<br>Total L.R. = 256.4 Cy.<br>" Solid = 802.7 "                                    |
|                 | 58.12       | 111.7                                                                                                                   |
|                 |             | Hand 1720 Set 58                                                                                                        |
|                 | 37.5 1.0    |                                                                                                                         |
|                 | 820.9 1.0   |                                                                                                                         |

Station Grade

Section 1

L C R

28+55 6062.91

$\frac{+7.6}{11.8}$  +1.6  $\frac{0.0}{4.0}$   $\frac{-2.6}{10.9}$

+65  $\frac{-3.60}{-3.60}$

$\frac{+8.6}{12.3}$  +3.4  $\frac{0.0}{3.0}$   $\frac{-1.9}{9.9}$

+67.3 6062.49

29

$\frac{+3.2}{9.6}$   $\frac{0.0}{2.5}$  -0.8  $\frac{-7.6}{18.4}$

+35  $\frac{-4.00}{-4.00}$

$\frac{0.0}{8.0}$  -3.7  $\frac{-15.0}{29.5}$

+51.3 6059.09

$\frac{+1.1}{8.6}$   $\frac{0.0}{3.5}$  -3.0  $\frac{-16.6}{31.9}$

+95

$\frac{0.0}{8.0}$  -2.7  $\frac{-17.6}{33.2}$

30+25 6056.41

+50

$\frac{-0.9}{8.4}$   $\frac{0.0}{6.5}$   $\frac{+0.8}{3.5}$   $\frac{0.0}{4.0}$  -2.4  $\frac{-21.0}{38.5}$

16' RB  $\frac{1}{4}$  1/5 slope.

+83

$\frac{0.0}{8.0}$  -4.3  $\frac{5.1}{9.0}$   $\frac{-19.8}{36.7}$

31+25

$\frac{+3.5}{8.9}$   $\frac{0.0}{2.0}$  -0.8  $\frac{-11.8}{24.7}$

+65 6051.13

$\frac{+8.6}{10.2}$  +4.3  $\frac{0.0}{8.0}$



Areas. Cub. yds.

Exc. Emb. Exc. Emb.

4304 3.90

820.9

1.0

19.1 1.4

6041 3.80

44.9 25.1

880 3496

3.8 101.7

00 121.88

0.3 713

1.38 114.20

0.7 179.1

0.0

117.22

889.7

67.0 1/2 55.

102.4 slips P.58

1059.1

0.8 246.2

1.00 124.50

0.4 143.5

0.0 110.33

5.4 126.2

10.50 51.98

62.2 25.7

73.53

921.2

284.1 added see P.59

154.2

1105.3

223.0



Sta

32

6049.82

 $\frac{12.9}{11.2}$ 

+91

 $\frac{+5.0}{9.2}$ 

+30

-3.76

 $\frac{15.7}{11.9}$ 

+108

 $\frac{+7.3}{9.8}$ 

+75

6047.01

 $\frac{+15.6}{11.9}$ 

+12.0

 $\frac{+9.1}{10.3}$ 

33+05

 $\frac{+16.5}{12.1}$ 

+14.5

 $\frac{+12.0}{11.0}$ 

+30

-4.00

 $\frac{+12.2}{11.1}$ 

+10.6

 $\frac{+9.0}{10.3}$ 

+52

 $\frac{0.0}{8.0}$ 

0.0

 $\frac{0.0}{8.0}$ 

+72

6043.13

33+95

 $\frac{+18.7}{30.4}$ 

-20.3

 $\frac{-24.1}{34.0}$  $\frac{-22.7}{35.4}$ 

34+15

 $\frac{-15.2}{26.0}$ 

-18.2

 $\frac{-25.4}{38.8}$ 

34+45

 $\frac{12.9}{23.1}$ 

-18.7

 $\frac{-23.4}{30.0}$  $\frac{-26.3}{39.9}$ 

+70

6039.44

 $\frac{13.0}{23.3}$ 

-18.8

 $\frac{-30.4}{45.0}$



| Areas  |        | Cub. Yds |                                                            |
|--------|--------|----------|------------------------------------------------------------|
| Cut    | Fill   | Exc.     | Emb.                                                       |
| 164.42 |        | 223.0    | Sta 24+95 to 33+52                                         |
|        |        | 207.7    | Total Exc 1890.5 Cu.                                       |
| 209.18 |        |          | Class Top 1 1/2' of original Cut<br>Loose Rock = 220.0 Cu. |
|        |        | 367.6    | Class Slips 1/2' R = 220.2                                 |
| 232.00 |        |          | Total Loose R = 440.2                                      |
|        |        |          | Balance of Cut                                             |
|        |        | 285.3    | Solid Rock = 1450.3                                        |
| 281.48 |        |          | <u>Haul to P. 59 = 1980.</u>                               |
|        |        | 222.1    |                                                            |
| 198.22 |        |          |                                                            |
|        |        | 80.8     |                                                            |
| 0.0    | 0.0    | 1386.5   |                                                            |
|        |        | 63.6     | 58.                                                        |
|        |        | 440.4    | Slips & extra width for wagon road<br>at P. 59             |
|        |        | 1890.5   | 668.3                                                      |
|        | 832.23 |          |                                                            |
|        |        |          | 581.9                                                      |
|        | 731.78 |          |                                                            |
|        |        |          | 798.8                                                      |
|        | 706.02 |          |                                                            |
|        |        |          | 694.5                                                      |
|        | 793.92 |          |                                                            |
|        |        |          | 769.4                                                      |
|        |        |          | 3512.9                                                     |

35

6038.32

$$\frac{-9.2}{18.5}$$

$$-18.8$$

$$\frac{-26.7}{40.4}$$

+35

$$\frac{-8.8}{18.0}$$

$$-8.9$$

$$\frac{-9.5}{18.9}$$

+70

$$\frac{-9.0}{18.3}$$

$$-11.5$$

$$\frac{-14.8}{25.5}$$

36

$$\frac{0.0}{8.0}$$

$$-7.7$$

$$\frac{-5.0}{13.2}$$

+20

-376

$$\frac{+3.2}{8.8}$$

$$+1.7$$

$$\frac{0.0}{8.0}$$

+30

$$\frac{+4.0}{9.0}$$

$$+2.3$$

$$\frac{+0.6}{8.2}$$

+40

$$\frac{+3.7}{8.9}$$

$$+2.0$$

$$\frac{0.0}{8.0}$$

+65

$$\frac{+3.6}{8.9}$$

$$+0.9$$

$$\frac{0.0}{3.0}$$

$$\frac{-1.1}{8.4}$$

+65

9

6032.08

37

$$\frac{+1.8}{8.8}$$

$$\frac{0.0}{2.0}$$

$$\frac{-4.0}{12.0}$$

+30

-370

6029.71

$$\frac{0.0}{8.0}$$

$$-1.3$$

$$\frac{-2.3}{9.7}$$



|       |       |      |       |                                                                                                                                  |
|-------|-------|------|-------|----------------------------------------------------------------------------------------------------------------------------------|
|       | 59096 |      | 35129 | 33+52 to 36+20<br>Embkt 4623.8                                                                                                   |
|       | 22825 |      | 531.0 | 2034.7 Made<br>from Cut mat<br>89.3 from Cut East                                                                                |
|       | 33575 |      | 365.2 | 266.2 from Cut<br>Sta 37+60                                                                                                      |
| 0.0   | 35.52 |      | 205.9 | Balance from<br>Borrow Pit in R<br>See Page 60 = 1850.6 Cu.<br>class $\frac{1}{2}$ L.R. = 616.9"<br>$\frac{3}{4}$ L.R. = 1233.7" |
| 27.08 | 0.0   | 6.7  | 8.8   | <u>Have 1240.</u>                                                                                                                |
|       |       |      | 46238 |                                                                                                                                  |
|       |       | 12.1 |       | Sta 36 to 37+30                                                                                                                  |
| 38.18 |       |      |       | <u>Exc 98.7 Cuff S.R.</u>                                                                                                        |
|       |       | 12.9 |       | Have rest for                                                                                                                    |
| 31.70 | 0.0   |      |       |                                                                                                                                  |
|       |       | 23.8 | 0.7   |                                                                                                                                  |
| 19.76 | 2420  |      |       | Sta 36+40 to 37+35                                                                                                               |
|       |       | 16.3 | 12.3  | Embkt 34.5 made<br>from Cut East                                                                                                 |
| 540   | 1680  |      |       |                                                                                                                                  |
| 0.0   | 1969  | 20   | 20.3  |                                                                                                                                  |
|       |       | 73.8 |       |                                                                                                                                  |
|       |       | 24.9 | 45.9  |                                                                                                                                  |
|       |       | 98.7 |       |                                                                                                                                  |
|       |       |      | 12    |                                                                                                                                  |
|       |       |      | 34.5  |                                                                                                                                  |

37 + 35 6029.52

$\frac{+0.6}{8.2}$

0.0

$\frac{0.0}{8.0}$

+ 85

$\frac{+14.2}{11.6}$

+ 13.5

$\frac{+12.6}{11.2}$

+ 95

$\frac{+14.8}{11.7}$

+ 13.6

$\frac{+11.3}{10.8}$

38 + 30

$\frac{+6.7}{9.7}$

+ 4.6

$\frac{+3.3}{8.8}$

+ 60

- 3.70

$\frac{+11.7}{10.9}$

+ 11.1

$\frac{+9.4}{10.4}$

+ 70

$\frac{+10.8}{10.7}$

+ 9.7

$\frac{+8.3}{10.1}$

39

$\frac{+1.3}{8.4}$

0.0

$\frac{0.0}{8.0}$

+ 07

$\frac{0.0}{8.0}$

- 1.3

$\frac{-2.3}{9.9}$

+ 20

$\frac{+5.4}{9.4}$

+ 2.7

$\frac{0.0}{8.0}$

+ 45

6021.75

$\frac{+14.7}{11.7}$

+ 10.5

$\frac{+6.6}{9.7}$



|        |       |        |                                   |
|--------|-------|--------|-----------------------------------|
| 240    | 0.0   | 0.1    | Sta 37 + 30% 39 + 07              |
|        |       | 244.0  | Exc 1000.4 Culyds.                |
| 261.10 |       |        | Class Signs see P. 59.            |
|        |       |        | $\frac{1}{2}$ Lo Rock = 30.5 C.Y. |
|        |       | 95.6   | Balance Cut Solid R = 969.9       |
| 255.15 |       |        | Haul <u>4300</u>                  |
|        |       | 218.9  |                                   |
| 82.55  |       |        | ✓                                 |
|        |       | 158.4  |                                   |
| 202.62 |       |        |                                   |
|        |       | 70.4   |                                   |
| 177.28 |       |        |                                   |
|        |       | 101.4  |                                   |
| 520    | 0.0   |        |                                   |
|        |       | 0.4    | 1.7                               |
|        |       | 889.2  | 45.6                              |
| 0.0    | 19.69 | 50.1   |                                   |
|        |       | 61.1   |                                   |
|        |       | 1000.4 |                                   |
|        |       | 7.2    | 3.2                               |
|        |       |        | 4.9                               |
| 45.09  | 0.0   |        | made from cut west                |
|        |       | 112.3  | ✓                                 |
| 197.55 |       |        |                                   |
|        |       | 111.6  |                                   |
|        |       | 231.1  |                                   |

$$39 + 60 \quad 6021.19$$

$$\begin{array}{r} +15.0 \\ \hline 11.8 \end{array}$$

$$+10.9$$

$$\begin{array}{r} +6.8 \\ \hline 9.7 \end{array}$$

$$+80 \quad -37.0$$

$$\begin{array}{r} +9.3 \\ \hline 10.3 \end{array}$$

$$+7.0$$

$$\begin{array}{r} +4.5 \\ \hline 9.1 \end{array}$$

$$+99 \quad 6019.76$$

$$40$$

$$\begin{array}{r} +3.0 \\ \hline 8.8 \end{array}$$

$$+1.9$$

$$\begin{array}{r} 0.0 \\ \hline 8.0 \end{array}$$

$$+15$$

$$\begin{array}{r} 0.0 \\ \hline 8.0 \end{array}$$

$$-1.6$$

$$\begin{array}{r} -4.2 \\ \hline 12.3 \end{array}$$

$$+30$$

$$\begin{array}{r} -0.6 \\ \hline 7.8 \end{array}$$

$$-3.0$$

$$\begin{array}{r} -6.5 \\ \hline 15.1 \end{array}$$

$$+45$$

$$\begin{array}{r} -0.4 \\ \hline 7.5 \end{array}$$

$$-3.3$$

$$\begin{array}{r} -7.6 \\ \hline 16.5 \end{array}$$

$$+70$$

$$\begin{array}{r} -7.2 \\ \hline 16.0 \end{array}$$

$$-8.6$$

$$\begin{array}{r} -17.1 \\ \hline 28.4 \end{array}$$

$$+82$$

$$\begin{array}{r} -10.9 \\ \hline 20.6 \end{array}$$

$$-14.2$$

$$\begin{array}{r} -15.7 \\ \hline 26.6 \end{array}$$

$$41 + 07 \quad 6015.74$$

$$\begin{array}{r} -7.9 \\ \hline 16.9 \end{array}$$

$$-9.7$$

$$\begin{array}{r} -8.2 \\ \hline 17.3 \end{array}$$

$$+38 \quad 6014.67$$

$$\begin{array}{r} -0.6 \\ \hline 7.8 \end{array}$$

$$-0.4$$

$$\begin{array}{r} 0.0 \\ \hline 8.0 \end{array}$$



204.38

231.1

Sta 39+07 to 40+15

Total Exp 1139.1 Extra  
width for borrow pit.

121.3

Class same as cut

123.10

Sta 39+07 to 39+80 Class

Solid Rock 954.3 Cu. Y.

55.9 39+80 to 40+15

Class L.R. 184.8 "

27.96 0.0

Haul 3020

5.2

5.7

0.0

30.94

413.5

27.8 1/2 SS.

Extra width 5861

694.8

25.0

1139.1

59.20

Sta 40 to 41+39

Embark 813.3 Cu.

35.2

made from cut  
mat.

67.60

159.1

275.97

156.5

428.22

301.1

222.22

130.6

0.0

5.26

0.1

813.3

$$41 + 39 \quad 601464 \quad \begin{array}{r} 0.0 + 1.5 \\ 28.0 \quad 20.0 \end{array} \quad \begin{array}{r} 0.0 \\ 11.0 \end{array} \quad 0.0 \quad \begin{array}{r} +0.6 \\ 8.2 \end{array}$$

8' R.B. in R  
irregular "  $\frac{1}{4}$  to 1

+60

$$\begin{array}{r} +5.2 +7.5 +7.3 +4.0 \\ 34.0 \quad 31.0 \quad 21.0 \end{array} \quad \begin{array}{r} 12.0 \\ 2.9 \end{array} \quad \begin{array}{r} +2.4 \\ 8.6 \end{array}$$

42

$$\begin{array}{r} +3.0 +6.0 +3.7 +1.4 \\ 41.0 \quad 37.0 \quad 21.0 \end{array} \quad \begin{array}{r} 11.4 \\ 1.3 \end{array} \quad \begin{array}{r} +1.3 \\ 8.3 \end{array}$$

+10

$$\begin{array}{r} +4.6 +4.6 +3.0 +0.7 \\ 42.0 \quad 39.0 \quad 21.0 \end{array} \quad \begin{array}{r} 11.2 \\ 0.5 \end{array} \quad \begin{array}{r} 0.0 \\ 8.0 \end{array}$$

+17

$$\begin{array}{r} +4.0 +4.0 +2.5 \\ 41.0 \quad 39.0 \quad 21.0 \end{array} \quad \begin{array}{r} 0.0 \\ 11.0 \end{array} \quad \begin{array}{r} -0.6 \\ -0.5 \end{array} \quad \begin{array}{r} -0.5 \\ 7.6 \end{array}$$

+20

$$\begin{array}{r} 0.0 \\ 41 \end{array} \quad \begin{array}{r} 0.0 \\ 15.0 \end{array}$$

+50

$$\begin{array}{r} -5.9 \\ 14.4 \end{array} \quad \begin{array}{r} -7.2 \\ 18.8 \end{array}$$

+75

$$\begin{array}{r} -5.2 \\ 13.5 \end{array} \quad \begin{array}{r} -5.8 \\ 15.9 \end{array}$$

43 +02 600903

+40

$$\begin{array}{r} -7.6 \\ 16.5 \end{array} \quad \begin{array}{r} -13.9 \\ 24.4 \end{array}$$

+60

$$\begin{array}{r} -13.1 \\ 23.4 \end{array} \quad \begin{array}{r} -12.6 \\ 22.8 \end{array}$$

+85

600596

$$\begin{array}{r} -22.6 \\ 35.3 \end{array} \quad \begin{array}{r} -16.7 \\ 27.9 \end{array}$$

Cut Widened for Borrow Pit



15.20

0.0

0.2 Sta 41+38 to 42+70 Lw 428.4  
Class Solid Rock

83.5

199.5

Haul 166<sup>3</sup> East face  
" 240 from 41+65 to  
42+95 = 310 Haul

250.7

138.86

44.6

102.15

0.0

23.0

75.00

0.7

8.23

4.2

0.0

406.2

222 110.8

173.07

428.4

139.5 42+10 to 44+32

128.31

Embkt 2587.4

made from  
510.9 Cuts mt -

296.11

247.4

371.77

554.7

826.43

417.8

1981.8

$$43 + 48 \quad H.B.$$

$$44 + 10^2 \quad 0600501$$

$$+32 \quad Toe$$

$$44 + 97 \quad Toe$$

$$45 + 30 \quad H.B. \quad -4.00$$

$$+42$$

$$+50$$

$$+59 \quad 05999.06$$

$$46$$

$$+30$$

$$+65$$

$$47 + 20 \quad 05992.86 \quad 3.84$$

$$\begin{array}{r} -224 \\ 350 \end{array} \quad \begin{array}{r} -212 \\ 200 \end{array} \quad \begin{array}{r} -240 \\ 90 \end{array} \quad \begin{array}{r} -188 \\ 305 \end{array}$$

$$-274$$

$$-263$$

$$\begin{array}{r} -69 \\ 15.6 \end{array} \quad \begin{array}{r} -96 \\ 24.3 \end{array} \quad \begin{array}{r} -138 \\ 24.3 \end{array}$$

$$\begin{array}{r} 00 \\ 8.0 \end{array} \quad \begin{array}{r} -1.8 \\ 9.6 \end{array} \quad \begin{array}{r} -2.1 \\ 9.6 \end{array}$$

$$\begin{array}{r} +20 \\ 8.5 \end{array} \quad \begin{array}{r} +1.6 \\ 8.0 \end{array} \quad \begin{array}{r} 00 \\ 8.0 \end{array}$$

$$\begin{array}{r} +20.2 \\ 13.1 \end{array} \quad \begin{array}{r} +14.5 \\ 10.7 \end{array} \quad \begin{array}{r} +10.9 \\ 10.7 \end{array}$$

$$\begin{array}{r} +23.2 \\ 13.8 \end{array} \quad \begin{array}{r} +18.2 \\ 11.6 \end{array} \quad \begin{array}{r} +14.6 \\ 11.6 \end{array}$$

$$\begin{array}{r} +22.9 \\ 13.7 \end{array} \quad \begin{array}{r} +17.8 \\ 11.6 \end{array} \quad \begin{array}{r} +14.2 \\ 11.6 \end{array}$$

$$\begin{array}{r} +15.1 \\ 11.8 \end{array} \quad \begin{array}{r} +10.8 \\ 9.8 \end{array} \quad \begin{array}{r} +7.3 \\ 9.8 \end{array}$$

#6  
Br



909.00

1981.8

605.6

2587.4

224.6

263.97

44+97 1/2 +5+42 ✓

Curb 290.7 Made  
63.8 from Cut East

0.0 231.9

2.1

2.3

21.20

0.0

290.7

294.6

Sta 45+52 to 48+05

296.95

Exc. 2807.2 Curb

Skip 588.3 See P. 61 Class

377.4

1/2 Lo. R = 294.2 Curb

Balance of Curb

Solid Road = 2513.0 u

382.34

489.9

Have 6900.

373.57

590.5

206.24

257.3

2011.8

$$4. \quad 47+65 \quad 5991.14$$

$$\begin{array}{r} +9.6 \\ 10.4 \\ \hline +5.7 \\ \hline +2.5 \\ \hline 8.6 \end{array}$$

4

$$+83$$

$$\begin{array}{r} +5.3 \\ 9.3 \\ \hline +2.5 \\ \hline 0.0 \\ \hline 8.0 \end{array}$$

$$4. \quad 48+05 \quad -3.84$$

$$\begin{array}{r} 0.0 \\ 8.0 \\ \hline -2.7 \\ \hline -10.4 \\ \hline 20.0 \end{array}$$

4

$$+25$$

$$\begin{array}{r} -1.6 \\ 9.0 \\ \hline -5.6 \\ \hline -16.2 \\ \hline 27.3 \end{array}$$

$$+39 \quad 5988.31$$

$$+55$$

$$\begin{array}{r} -1.6 \\ 9.0 \\ \hline -4.6 \\ \hline -11.2 \\ \hline 21.0 \end{array}$$

$$+85$$

$$\begin{array}{r} -3.1 \\ 10.7 \\ \hline -6.3 \\ \hline -13.6 \\ \hline 24.0 \end{array}$$

49

$$+50$$

-4.00

$$\begin{array}{r} -7.1 \\ 15.9 \\ \hline -10.5 \\ \hline -18.9 \\ \hline 30.6 \end{array}$$

$$\begin{array}{r} 15.6 \\ 26.5 \\ \hline -23.3 \\ \hline -30.8 \\ \hline 45.5 \end{array} \quad \begin{array}{l} \text{end of} \\ \text{wall} \end{array}$$

$$+85$$

$$\begin{array}{r} -17.1 \\ 28.4 \\ \hline -24.4 \\ \hline -37.1 \\ \hline 51.6 \end{array} \quad \begin{array}{l} \text{Wall 70} \\ 1 \frac{1}{2} \end{array}$$

$$50+15 \quad 5981.27$$

$$\begin{array}{r} -20.7 \\ 32.9 \\ \hline -27.3 \\ \hline -43.0 \\ \hline 57.5 \end{array} \quad \begin{array}{l} \text{Wall 130} \\ 1 \frac{1}{2} \end{array}$$



102.55

2011.8

48.5

42.83

0.0

11.6

20.1

0.0

74.20

2071.9

147.0 5.4

588.3

Slips Sec 61

1807.2

88.2

163.94

154.3

113.80

156.5

167.75

139.7

335.13

1237.3

1061.20

1421.6

1192.33

1498.9

1505.65

2117.0

6833.6

# Section 1

| Stations | Grade   | L                                            | C                                    | R                                                                                 |
|----------|---------|----------------------------------------------|--------------------------------------|-----------------------------------------------------------------------------------|
| 50+40    | 5980.27 | $\begin{array}{r} -238 \\ 368 \end{array}$   | $\begin{array}{r} -337 \end{array}$  | $\begin{array}{r} -38.4 \\ 52.9 \end{array}$ 8.4 Wall<br>1 to 1                   |
| +50      |         | $\begin{array}{r} -27.0 \\ 40.8 \end{array}$ | $\begin{array}{r} -31.3 \end{array}$ | $\begin{array}{r} -34.8 \\ 49.3 \end{array}$ Wall 4.8<br>1 to 1<br>+ 60' end wall |
| +75      |         | $\begin{array}{r} -16.4 \\ 29.5 \end{array}$ | $\begin{array}{r} 17.0 \end{array}$  | $\begin{array}{r} -18.6 \\ 30.3 \end{array}$                                      |
| 51+04    |         | $\begin{array}{r} 0.0 \\ 8.0 \end{array}$    | $\begin{array}{r} -0.8 \end{array}$  | $\begin{array}{r} -1.6 \\ 9.0 \end{array}$                                        |
| 51+08    | -4.00   | $\begin{array}{r} +2.0 \\ 8.5 \end{array}$   | $\begin{array}{r} +1.0 \end{array}$  | $\begin{array}{r} 0.0 \\ 8.0 \end{array}$                                         |
| +30      |         | $\begin{array}{r} +11.7 \\ 10.9 \end{array}$ | $\begin{array}{r} +10.3 \end{array}$ | $\begin{array}{r} +8.4 \\ 10.1 \end{array}$                                       |
| +55      |         | $\begin{array}{r} +21.3 \\ 13.3 \end{array}$ | $\begin{array}{r} +18.4 \end{array}$ | $\begin{array}{r} +15.2 \\ 11.8 \end{array}$                                      |
| 52       |         | $\begin{array}{r} +22.1 \\ 15.3 \end{array}$ | $\begin{array}{r} +24.0 \end{array}$ | $\begin{array}{r} +18.8 \\ 12.7 \end{array}$                                      |
| +35      |         | $\begin{array}{r} +26.0 \\ 14.5 \end{array}$ | $\begin{array}{r} +21.9 \end{array}$ | $\begin{array}{r} +17.5 \\ 12.4 \end{array}$                                      |
| +67      | 5971.19 | $\begin{array}{r} +18.6 \\ 12.7 \end{array}$ | $\begin{array}{r} +13.7 \end{array}$ | $\begin{array}{r} +8.6 \\ 10.2 \end{array}$                                       |
| 53+10    | -37.5   | $\begin{array}{r} +7.7 \\ 9.9 \end{array}$   | $\begin{array}{r} +3.0 \end{array}$  | $\begin{array}{r} 0.0 \\ 8.0 \end{array}$                                         |



Areas  
Cut. Fill Cub. Yds.  
Exc. Emb.

1760.65

6833.6

47+83 to 51+08

630.6 Emb. 8846.5

1644.37

Made from

1045.4 Cuts at ends -

613.80

3363

0.0

12.40

0.8

0.6

16.25

0.0

8846.5

83.4

188.85

Sta 51+04 to 53+10

Total Exc 3007.4

261.8 Slips 444.5 see P 62

Class  $\frac{1}{2}$  L.R. = 222.304

376.92

Balance Cut S.R. = 2785.1

753.8

Haul 4280

527.60

647.8

471.44

436.8

265.67

257.5

2441.9

121.0 S.S.

444.5

Slips P. 62

57.65

3007.4

# Poland Spur & Siding

| Station   | Grade     | L    | C    | R    |
|-----------|-----------|------|------|------|
| 1+75      | Main Line | +3.0 |      | 0.0  |
| = 2 Spur: | 6375      | 8.8  | +2.0 | 23.0 |

|     |          |             |            |      |             |             |              |
|-----|----------|-------------|------------|------|-------------|-------------|--------------|
| +25 | 06161.50 | +3.1<br>8.8 | 0.0<br>1.5 | -0.7 | -2.7<br>7.5 | -0.8<br>7.5 | -2.3<br>25.5 |
|-----|----------|-------------|------------|------|-------------|-------------|--------------|

|     |  |             |            |      |             |             |              |
|-----|--|-------------|------------|------|-------------|-------------|--------------|
| +60 |  | +5.9<br>9.5 | 0.0<br>2.0 | -1.6 | -5.6<br>7.5 | -3.7<br>7.5 | -4.0<br>28.0 |
|-----|--|-------------|------------|------|-------------|-------------|--------------|

|        |  |               |  |      |            |             |            |            |             |
|--------|--|---------------|--|------|------------|-------------|------------|------------|-------------|
| 3 + 00 |  | +11.3<br>10.8 |  | +4.5 | 0.0<br>7.5 | +1.9<br>7.5 | 0.0<br>6.0 | 5.9<br>2.0 | 7.6<br>33.4 |
|--------|--|---------------|--|------|------------|-------------|------------|------------|-------------|

|     |  |               |  |      |             |             |             |              |              |
|-----|--|---------------|--|------|-------------|-------------|-------------|--------------|--------------|
| +25 |  | +13.0<br>11.3 |  | +6.9 | +0.4<br>7.5 | +2.3<br>7.5 | 0.0<br>10.0 | -7.9<br>22.0 | -8.1<br>34.2 |
|-----|--|---------------|--|------|-------------|-------------|-------------|--------------|--------------|

|     |       |              |  |      |            |             |             |              |              |
|-----|-------|--------------|--|------|------------|-------------|-------------|--------------|--------------|
| +50 | -15.0 | +9.2<br>10.3 |  | +5.3 | 0.0<br>7.5 | +1.9<br>7.5 | 0.0<br>12.0 | -7.3<br>27.0 | -8.1<br>34.2 |
|-----|-------|--------------|--|------|------------|-------------|-------------|--------------|--------------|

|        |  |             |  |      |            |             |             |              |
|--------|--|-------------|--|------|------------|-------------|-------------|--------------|
| 4 + 00 |  | +7.2<br>9.8 |  | +0.8 | 0.0<br>7.5 | -3.7<br>7.5 | -1.8<br>7.5 | -8.1<br>34.2 |
|--------|--|-------------|--|------|------------|-------------|-------------|--------------|

|     |          |             |            |      |             |             |              |
|-----|----------|-------------|------------|------|-------------|-------------|--------------|
| +50 | 06158.13 | +2.4<br>8.6 | 0.0<br>4.0 | -2.0 | -5.9<br>7.5 | -4.0<br>7.5 | -9.8<br>36.7 |
|-----|----------|-------------|------------|------|-------------|-------------|--------------|

|     |      |               |            |      |             |             |              |
|-----|------|---------------|------------|------|-------------|-------------|--------------|
| +75 | 0.00 | +11.5<br>42.9 | 0.0<br>8.0 | -2.0 | -3.6<br>7.5 | -2.4<br>7.5 | -9.8<br>36.7 |
|-----|------|---------------|------------|------|-------------|-------------|--------------|

|        |         |               |             |     |             |             |              |
|--------|---------|---------------|-------------|-----|-------------|-------------|--------------|
| 5 + 00 | 6158.13 | +18.0<br>44.5 | +4.1<br>9.0 | 0.0 | -3.3<br>7.5 | -2.2<br>7.5 | -7.8<br>33.6 |
|--------|---------|---------------|-------------|-----|-------------|-------------|--------------|



Areas      Cub. Yds.  
Cut Fill    Exc. Emb.

43.80      0.0

24.9      11.5      Sta 2 to 4+75

10.08      37.15      Exp 465.3 Cu. Yds.

18.0      86.0      class  $\frac{1}{3}$  Solid Rock

= 155.1

17.70      95.52

$\frac{2}{3}$  Loose Rock = 310.2

78.8      127.5

88.74      7663

97.2      79.7

121.22      95.59

Sta 4+75 to 7+90

97.0      72.4      was not taken out

as stated - see

Page 54

88.24      60.78

Exp. 1065.0 Cu. Y.

112.6      143.2      class  $\frac{1}{3}$  Solid Rock

= 355.0

33.32      93.86

$\frac{2}{3}$  Lo. Rock = 710.0

35.3      237.9      Haul 250 yds 200'

into Road = 500

4.80      163.07

Haul 150 from

7 to 5 = 300

0.0  
184.00      135.09

1.5  
465.3      138.0

Total Haul 800.

256.6      107.7

370.23      97.64

476.1      236.5

732.7      1240.4

Station Grade

L C R

5 + 50  $\begin{array}{r} + 9.0 \\ 42.3 \end{array} \begin{array}{r} .00 \\ 50 \end{array} - 2.3 \begin{array}{r} - 4.1 \\ 75 \end{array} \begin{array}{r} - 3.7 \\ 75 \end{array} \begin{array}{r} 10.3 \\ 34.5 \end{array}$

+ 75  $\textcircled{6158.13}$

6 + 00  $\begin{array}{r} + 18.4 \\ 44.6 \end{array} \begin{array}{r} .00 \\ 60 \end{array} - 2.9 \begin{array}{r} - 11.6 \\ 30.4 \end{array}$

6 + 30 = 5 + 40 <sup>5</sup> of Siding

+ 50  $\begin{array}{r} + 5.8 \\ 31.5 \end{array} \begin{array}{r} .00 \\ 55 \end{array} - 1.4 \begin{array}{r} - 4.8 \\ 14.2 \end{array}$

+ 60  $\begin{array}{r} 0.0 \\ 30.0 \end{array} \begin{array}{r} .00 \\ 80 \end{array} - 0.5 \begin{array}{r} - 4.8 \\ 14.2 \end{array}$

7  $\textcircled{6154.65}$   $\begin{array}{r} + 8.3 \\ 10.1 \end{array} + 4.3 \begin{array}{r} .00 \\ 80 \end{array}$

+ 40  $\begin{array}{r} + 14.3 \\ 11.6 \end{array} + 11.2 \begin{array}{r} + 6.6 \\ 9.7 \end{array}$

+ 55  $\begin{array}{r} + 13.0 \\ 11.3 \end{array} + 5.6 \begin{array}{r} .00 \\ 80 \end{array}$

+ 85  $\begin{array}{r} + 1.0 \\ 8.3 \end{array} 0.0 \begin{array}{r} - 2.0 \\ 10.0 \end{array}$

+ 90 (End)  $\begin{array}{r} + 1.8 \\ 8.5 \end{array} + 1.0 \begin{array}{r} .00 \\ 8.0 \end{array}$



Area      Cub Yds.  
Cut    Fill    Exc    Emb.

103  
45  
144.00    157.83    737.7    1240.4

423.0    264.8

312.80    128.18

355.4    147.0

71.05    30.59

13.7    9.8

00    22.35

54.9    11.1

111.03    0.0

1673.1

232.5

202.88    0.0

85.8

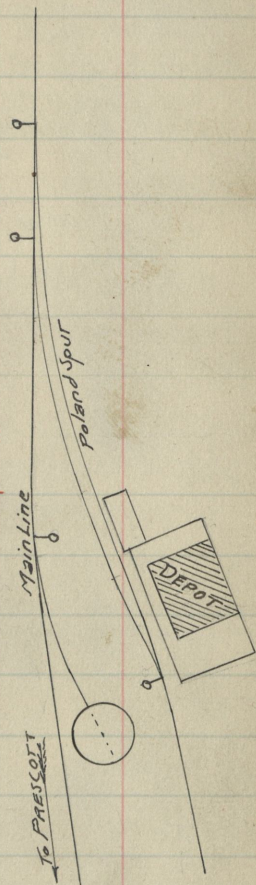
106.04    0.0

61.1    2.6

4.00    7.00

1.8    0.4

154.5    0.0    1960.4    3.0



# Mill Spur. Poland.

Station Grade  
 7+40 Main Line  
 = 1+15 Spur. 40.40

L      C      R

|             |            |                                             |                                             |      |                                             |                                             |
|-------------|------------|---------------------------------------------|---------------------------------------------|------|---------------------------------------------|---------------------------------------------|
| + 49 HB.    | 38.92      | $\begin{array}{c} -8.0 \\ 19.0 \end{array}$ | $\begin{array}{c} -7.0 \\ 7.0 \end{array}$  | -6.1 | $\begin{array}{c} -5.1 \\ 7.0 \end{array}$  | $\begin{array}{c} -4.8 \\ 14.2 \end{array}$ |
| 1 + 61 Toe. |            | $\begin{array}{c} -8.3 \\ 12.5 \end{array}$ | $\begin{array}{c} 4.3 \\ 7.0 \end{array}$   | -8.2 | $\begin{array}{c} -7.7 \\ 7.0 \end{array}$  | $\begin{array}{c} -5.0 \\ 8.0 \end{array}$  |
| 2           | 0.61 37.00 | $\begin{array}{c} 1.4 \\ 2.1 \end{array}$   | $\begin{array}{c} 1.3 \\ 7.0 \end{array}$   | -3.3 | $\begin{array}{c} -6.5 \\ 7.0 \end{array}$  | $\begin{array}{c} -8.8 \\ 13.2 \end{array}$ |
| 2 + 07 Toe  |            |                                             |                                             |      |                                             |                                             |
| 2 + 12      | 36.50      | $\begin{array}{c} -1.6 \\ 9.4 \end{array}$  | $\begin{array}{c} -2.0 \\ 7.0 \end{array}$  | -3.2 | $\begin{array}{c} -6.6 \\ 7.0 \end{array}$  | $\begin{array}{c} -6.5 \\ 16.8 \end{array}$ |
| + 40        | 35.60      |                                             | $\begin{array}{c} 0.0 \\ 8.0 \end{array}$   | -1.7 | $\begin{array}{c} -3.8 \\ 12.7 \end{array}$ |                                             |
|             | 0.0        |                                             |                                             |      |                                             |                                             |
| + 75        | 34.70      |                                             | $\begin{array}{c} +5.7 \\ 10.9 \end{array}$ | +1.8 | $\begin{array}{c} 0.0 \\ 5.0 \end{array}$   | $\begin{array}{c} -1.7 \\ 9.6 \end{array}$  |
| 3           | 34.00      |                                             | $\begin{array}{c} +5.4 \\ 10.7 \end{array}$ | +1.3 | $\begin{array}{c} 0.0 \\ 4.0 \end{array}$   | $\begin{array}{c} -2.3 \\ 10.5 \end{array}$ |
| + 25        |            | $\begin{array}{c} +2.7 \\ 9.4 \end{array}$  | $\begin{array}{c} 0.0 \\ 3.0 \end{array}$   | -1.0 | $\begin{array}{c} -1.3 \\ 18.0 \end{array}$ | $\begin{array}{c} -1.7 \\ 29.1 \end{array}$ |
| + 50        | 33.25      | $\begin{array}{c} +2.4 \\ 30.4 \end{array}$ | $\begin{array}{c} +2.7 \\ 21.0 \end{array}$ | +5.5 | $\begin{array}{c} 0.0 \\ 8.0 \end{array}$   |                                             |
| + 90        | 6137.00    | $\begin{array}{c} +2.3 \\ 30.0 \end{array}$ | $\begin{array}{c} +2.6 \\ 22.0 \end{array}$ | +6.6 | $\begin{array}{c} 0.0 \\ 8.0 \end{array}$   |                                             |



Clear Cub Yds.  
Cut Fill Exc. Emb.

51.62

Sta 1+15 to 2+07

Emb 280.5

125.4 made from Cut

Sta 2+40 to 4+50

147.54

155.1280.5

16.6

87.24

61.3

0.0

30.90

15.9 21.1

37.11

1.70

31.6 2.4

31.16

3.45

17.6 56.7

6.75

118.80

125.0 36.7

263.99

0.0

194.8

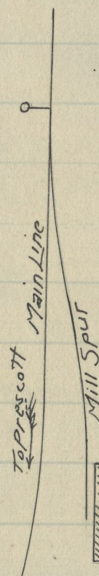
394.8

269.00

0.0

212.7

3.1

797.6

hand made from cut

| Station | Grade   | L                  | C    | R                                   |
|---------|---------|--------------------|------|-------------------------------------|
| 4+30    | 6137.00 | $\frac{+3.5}{7.8}$ | +0.7 | $\frac{0.0}{2.0} \frac{-2.5}{1.48}$ |
| +50     |         | $\frac{0.0}{7.0}$  | 0.0  | $\frac{-0.4}{7.6}$                  |
| +90     | 6137.00 | $\frac{-0.4}{7.0}$ | -0.4 | $\frac{-0.4}{7.6}$                  |

### Slope Walls on Section 1-

18+60 to 19+70 — Heights as shown in

Cross Sections — 2' thick = 53.9 Cu Yds

22+90 to 23+90 — 3' thick = 20.0 "

25+10 to 26+50 — 3' " = 156.1

25 to 26+45 slope carried up 15 ft.

1 ft thick = 80.5 236.6 " 3 1/2

358+66 to 359+56  
49+50 to 50+60 — 3 thick = 97.7

49+60 to 50+50 Slope carried

up 6 ft — 1 ft. thick = 20.0 117.7 "

Total Slope Wall 428.2 Cu Yds

### Rip Rap

1+38 to 1492 Mill Spur on L  $19 \times 4 \times 5 \frac{1}{4}$  = 15.2 Cy.

19+50 DYK on L  $3 \times 5 \times 6$  = 3.3 "

18.5 Cu Yds



Area Cub Yds.  
Cut Fill Exc Emb.

18.13 6.25 797.6 3.1

Sta 2+40 to 4+50

4.5

2.9

was not taken to  
status see P. 54

0.0

1.40

802.1

Exc 645.5 Cu.Y.

5.3

Sta 3+3+25 = 65.1 Cu.Y.

Class Solid Rock

11.3

Sta 3+25 to 4+50 = 5804  
Class Loose Rock

5.72

Have 10 yds to start free

Have 170 ft to start free

" 2442-3000 to Sta 1+35 = 730

" 2213-3600 " 8+50 Mainline = 800

Total Have 1530.

### Clearing on Section 1

|            |                    |          |        |
|------------|--------------------|----------|--------|
| 6.6"       | Sta-2+80 to 0      | 60' wide | 16800  |
|            | " 0 to 8           | 130 "    | 104000 |
| 7.7"       | " 8 " 43           | 60 "     | 210000 |
| 8.2 Cu.Yd. | " 43 " 53          | 75 "     | 75000  |
|            | 32 Barrow Pit on R | 150x200  | 30000  |
|            | 1000 Acres =       |          | 435800 |



# Turn Table Spur — Poland

Sta      Grade      L      C      R

3+48 Main Line = 0

0       $\frac{00}{80}$        $\frac{00}{80}$

+50 54.09       $\frac{+0.9}{82}$  00

+75 53.08       $\frac{+0.6}{8.2} \frac{+1.1}{3.0} \frac{00}{3.0}$

1 51.98       $\frac{+1.0}{82} \frac{+1.5}{1.0} \frac{+1.7}{2.0} \frac{00}{2.0}$

+30 0 50.89       $\frac{+0.7}{8.4} \frac{+1.8}{8.4} \frac{+2.1}{8.5}$

+32       $\frac{0.0}{8.0} \frac{+1.6}{8.5} \frac{+2.0}{8.5}$

+55       $\frac{-1.8}{9.7} \frac{-0.8}{8.0} \frac{0.0}{8.0}$

+80 END 50.89       $\frac{-3.9}{12.9} \frac{-3.0}{10.8} \frac{-2.5}{10.8}$

2+129 Center of Table



Areas      Cub. Yards  
Cut   Fill   Exc. Emb.

0.0

Sta 0 to 1455 Exc 43.9 Cy. Earth

2.2

3.60

4.1

5.11

8.2

12.60

21.6

26.23

1.8

21.20

0.0

6.0

3.8

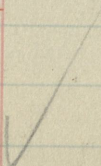
0.0

13.38

43.9

33.0

57.95

368


# Wagon Roads at Poland.

On Let Sta 4 Main Spur.

| 4+50<br>= 0 | S   | R           | Areas       | Cu.Yds.       |
|-------------|-----|-------------|-------------|---------------|
|             | 0.0 |             | 00          |               |
| +05         | 0.0 | +20<br>8.0  | 00<br>10.0  | 08<br>9.00    |
| +25         | 0.0 | +41<br>21.0 | 00<br>11.0  | 11.7<br>22.55 |
| +40         | 0.0 | +38<br>10.0 | 00<br>11.2  | 12.2<br>21.28 |
| +55         | 0.0 | +12<br>9.0  | 00<br>10.0  | 7.6<br>6.00   |
| +80         | 0.0 | +24<br>10.0 | 00<br>10.0  | 4.3<br>3.20   |
| 1           | 0.0 | +26<br>15.0 | 00<br>12.0  | 3.3<br>5.70   |
| +15         | 0.0 | +15<br>5.0  | 00<br>16.0  | 4.9<br>12.00  |
| +30         | 0.0 | +15<br>0.5  | +13<br>12.0 | 8.3<br>17.78  |
| +45         | 0.0 | +23<br>9.0  | 00<br>11.0  | 8.5<br>12.65  |
| +55         | 0.0 | +35<br>10.0 | 00<br>12.0  | 6.2<br>21.00  |
| +90         | 0.0 | +25<br>9.0  | 00<br>10.0  | 21.7<br>12.50 |
|             |     |             |             | 89.5          |

Class 1/4  
Solid R-224  
Low - 6.71

On Left 6+42 to 7+90 Main Spur.

| 6+42<br>= 0 | L   | C           | R            | Areas | Cu.Yds. |
|-------------|-----|-------------|--------------|-------|---------|
|             | 0.0 |             | 0.0          | 0.0   |         |
| +15         | 0.0 | +11<br>8.0  | 0.0          | 4.40  | 1.2     |
| +40         | 0.0 | +20<br>9.0  | 0.0          | 9.00  | 6.2     |
| +85         | 0.0 | +14<br>7.8  | 0.0          | 6.24  | 12.7    |
| 1+10        | 0.0 | +20<br>8.0  | 0.0          | 8.00  | 6.6     |
| +50         | 0.0 | +33<br>8.0  | 0.0          | 13.20 | 15.7    |
| +80         | 0.0 | +22<br>7.0  | 0.0          | 12.10 | 14.1    |
| +95         | 0.0 | +45<br>15.5 | 0.0          | 34.88 | 13.1    |
| 2+15        | 0.0 | +27<br>11.0 | 0.0          | 14.85 | 18.4    |
| +25         | 0.0 | +22<br>17.5 | +1.6<br>10.0 | 19.55 | 6.4     |
| +42         | 0.0 | +15<br>14.0 | +1.5<br>13.0 | 19.50 | 12.3    |
| +45         | 0.0 | 0.0         | 0.0          | 6.0   | 1.1     |
|             |     |             |              | 107.8 |         |

1/4 Solid Rock 53.9  
1/4 Low " 53.9

On Right -1+65 Main Line

| 0   |  |      |             |       |
|-----|--|------|-------------|-------|
|     |  | +2.7 | +30<br>4.0  | 9.15  |
| +05 |  |      | +25<br>8.0  | 13.61 |
| +10 |  |      | +2.7        | 18.33 |
| +15 |  |      | +3.5<br>6.9 | 4.0   |
| +20 |  |      | +2.8<br>8.2 | 24.87 |
| +25 |  |      | +2.7        | 28.06 |
| +30 |  |      | +2.0        | 29.06 |
| +35 |  |      | +2.0        | 30.50 |
| +40 |  |      | 0.0         | 18.53 |
| +45 |  |      | +1.0        | 17.42 |
| +45 |  |      | 0.0         | 7.83  |
| +60 |  |      | 0.0         | 7.83  |
| +65 |  |      | 0.0         | 0.0   |
|     |  |      |             | 139.6 |

Class 1/4  
Solid Rock 19.8  
1/4 Low R 19.8



# Wagon Roads.

27

On Right 2+46 to 5 Main Line

| Station  | L | C   | R                   | Areas | Cub.Yds<br>Excav. |
|----------|---|-----|---------------------|-------|-------------------|
| 2+46 = 0 |   | 0.0 | $\frac{+1.4}{1.00}$ | 7.00  |                   |
| +17      |   | 0.0 | $\frac{+1.6}{1.06}$ | 8.48  | 4.8               |
| +28      |   | 0.0 | $\frac{+1.7}{1.20}$ | 7.65  | 3.3               |
| +58      |   | 0.0 | $\frac{0.0}{1.00}$  | 0.0   | 4.2               |
| +79      |   | 0.0 | $\frac{+1.2}{1.00}$ | 6.00  | 2.3               |
| 1 +21    |   | 0.0 | $\frac{+1.0}{1.10}$ | 4.50  | 8.2               |
| +37      |   | 0.0 | $\frac{+1.0}{1.10}$ | 4.50  | 2.7               |
| +57      |   | 0.0 | $\frac{+0.9}{1.09}$ | 3.82  | 3.1               |
| +97      |   | 0.0 | $\frac{+0.8}{1.08}$ | 3.60  | 5.5               |
| 2 +17    |   | 0.0 | $\frac{0.0}{1.00}$  | 0.0   | 1.3               |
| +57      |   | 0.0 | $\frac{+1.2}{1.20}$ | 8.08  | 6.0               |
| +67      |   | 0.0 | $\frac{0.0}{1.00}$  | 0.0   | 1.5               |

42.9

Classroom Road

Change of L47 x Creek Road on R-31+70

|        |                                 |     |      |      |
|--------|---------------------------------|-----|------|------|
| 0      | 0.0                             | 0.0 | 0.0  |      |
| +50    | $\frac{0.0 + 1.0}{3.025}$       | 0.0 | 1.50 | 1.4  |
| 1      | $\frac{0.0 + 2.8}{7.065}$       | 0.0 | 9.80 | 10.5 |
| +50    | $\frac{0.0 + 2.5}{6.560}$       | 0.0 | 8.13 | 16.6 |
| +80    | $\frac{0.0 + 1.2 + 1.0}{8.480}$ | 0.0 | 8.44 | 9.2  |
| 2 + 30 | $\frac{0.0 + 1.6 + 0.5}{9.590}$ | 0.0 | 9.05 | 16.2 |
| +50    | $\frac{0.0 + 0.6}{5.050}$       | 0.0 | 1.56 | 3.9  |
| 3      | $\frac{0.0 + 2.2}{6.570}$       | 0.0 | 7.70 | 8.6  |
| +50    | $\frac{0.0 + 2.2}{5.860}$       | 0.0 | 6.60 | 13.2 |
| +90    | $\frac{0.0 + 1.2}{7.580}$       | 0.0 | 4.80 | 8.4  |
| +95    | $\frac{0.0}{7.500}$             | 0.0 | 0.0  | 0.4  |
|        |                                 |     |      | 88.4 |

Class 1/4 Solid Road = 22.1  
3/4 Loose = 66.3

# Section 1

| Page   | Acres<br>Clearing | Excavation-Cubic Yards. |         |               |               |
|--------|-------------------|-------------------------|---------|---------------|---------------|
|        |                   | Total<br>in Cut         | Earth   | Loose<br>Rock | Solid<br>Rock |
| 2      |                   | 854.5 ✓                 |         | 687.6 ✓       | 166.9 ✓       |
| 4      |                   | 618.6 ✓                 | 464.0 ✓ | 154.6 ✓       |               |
| 5      |                   | 2250.1 ✓                |         |               | 2250.1 ✓      |
| 7      |                   | 2562.7 ✓                |         | 300.2 ✓       | 2262.5 ✓      |
| 8      |                   |                         |         |               |               |
| 10     |                   | 4874.6 ✓                |         | 399.8 ✓       | 4474.8 ✓      |
|        |                   | 45.0 ✓                  |         |               | 45.0 ✓        |
| 12     |                   | 1059.1 ✓                |         | 256.4 ✓       | 802.7 ✓       |
| 14     |                   | 1890.5 ✓                |         | 440.2 ✓       | 1450.3 ✓      |
| 15     |                   | 98.7 ✓                  |         |               | 98.7 ✓        |
| 16     |                   | 1000.4 ✓                |         | 30.5 ✓        | 969.9 ✓       |
| 17     |                   | 1139.1 ✓                |         | 184.8 ✓       | 954.3 ✓       |
| 18     |                   | 428.4 ✓                 |         |               | 428.4 ✓       |
| 19     |                   | 2807.2 ✓                |         | 294.2 ✓       | 2513.0 ✓      |
| 21     |                   | 3007.4 ✓                |         | 222.3 ✓       | 2785.1 ✓      |
| 22     |                   | 465.3 ✓                 |         | 310.2 ✓       | 155.1 ✓       |
| 22     |                   | 1065.0 ✓                |         | 710.0 ✓       | 355.0 ✓       |
| 25/100 |                   | 645.5 ✓                 |         | 580.4 ✓       | 65.1 ✓        |
| 26     |                   | 43.9 ✓                  | 43.9 ✓  |               |               |
| 27     |                   | 368.2 ✓                 | 19.8 ✓  | 250.0 ✓       | 98.4 ✓        |
| 1000   |                   | 25224.2 ✓               | 527.7 ✓ | 4821.2 ✓      | 19875.3 ✓     |
|        |                   | 79.107                  |         | 72.8          | 19.3          |



# Summary

28

| Borrow ~ Cub. Yards. |            | Cu. Yds.    | Cub. Yds.               |
|----------------------|------------|-------------|-------------------------|
| Earth                | Loose Rock | Hauled 100' | Slope Wall and Rip Rap. |

730.

240.9

803

1400.

5080.

6930.

129.8

10680.

1720.

1980.

12337

6169

1240.

4300.

3020.

310.

6900.

4280.

800.

185

1530.

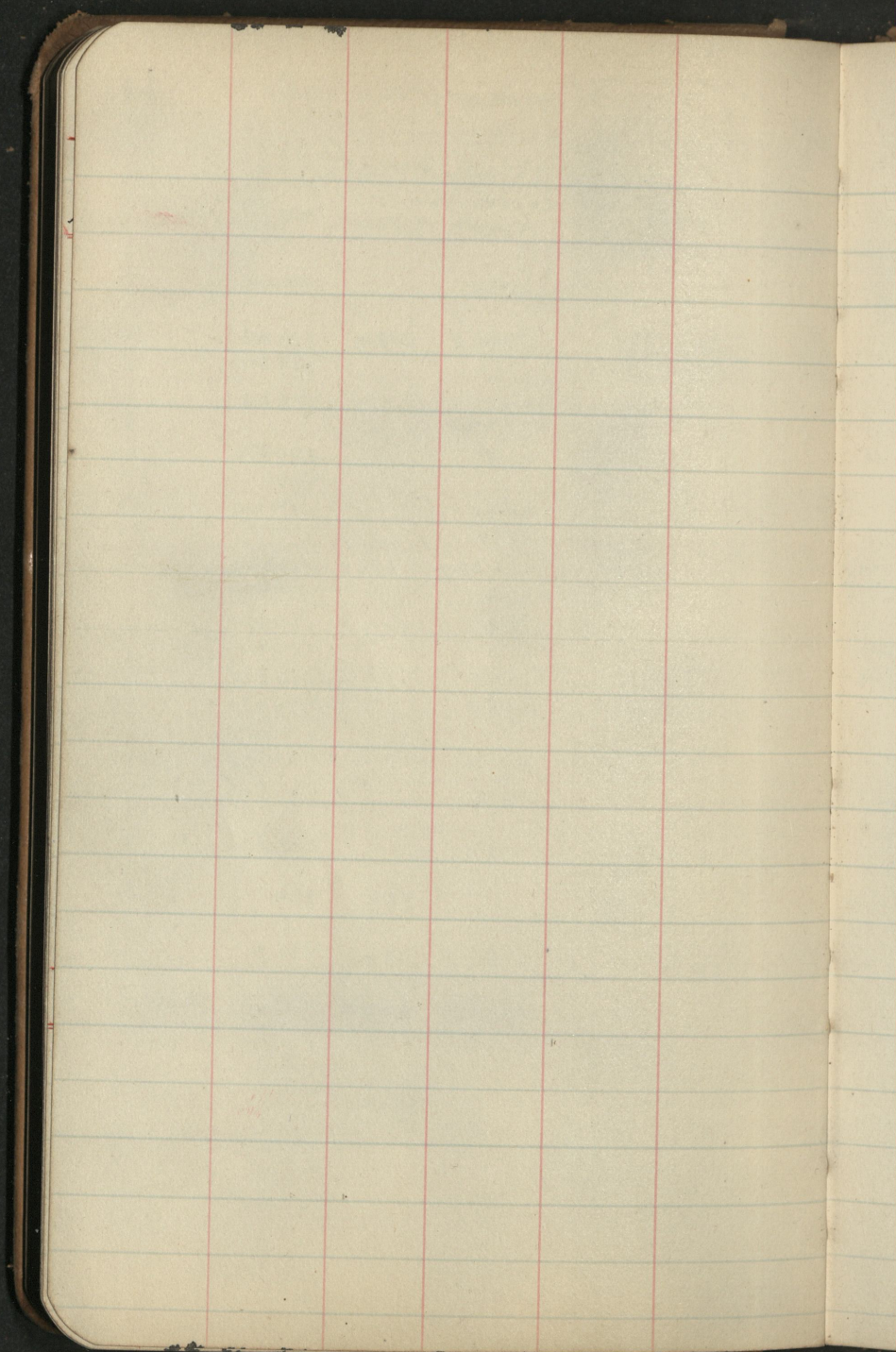
4282

1604.4

697.2

50900

4467





29

# Section 2

| Station | Grade   | L                    | C                 | R                    |                                    |
|---------|---------|----------------------|-------------------|----------------------|------------------------------------|
| 53+10   |         |                      |                   |                      |                                    |
| 53+35   | 5968.64 | $\frac{0.0}{8.0}$    | -5.1              | $\frac{-198}{318}$   | 53+50<br>End Wall.                 |
| +60     | 67.70   | $\frac{+1.6}{8.4}$   | $\frac{0.0}{5.5}$ | $\frac{-22.8}{34.1}$ | 2.8 Wall<br>$\frac{3}{4}:1$ Slope  |
| +63     | 5967.59 |                      |                   |                      |                                    |
| +70     | 67.35   | $\frac{0.0}{8.0}$    | -4.3              | $\frac{-26.6}{36.9}$ | 6.6 Wall<br>$\frac{3}{4}:1$ Slope  |
| +90     | 66.54   | $\frac{-1.1}{8.4}$   | -6.3              | $\frac{-34.7}{43.7}$ | 14.7 Wall<br>$\frac{3}{4}:1$ Slope |
| 54+20   | 65.59   | $\frac{-0.6}{7.8}$   | -5.7              | $\frac{-37.1}{44.9}$ | 17.1 Wall<br>$\frac{3}{4}:1$ Slope |
| +35     | 65.07   | $\frac{0.0}{8.0}$    | -5.5              | $\frac{-29.2}{38.9}$ | 9.2 Wall<br>$\frac{3}{4}:1$ Slope  |
| +50     | 64.53   | $\frac{+1.4}{8.4}$   | $\frac{0.0}{5.0}$ | $\frac{-21.2}{32.9}$ | 1.2 Wall<br>$\frac{3}{4}:1$ Slope  |
| +90     | 63.12   | $\frac{+9.6}{10.4}$  | +4.0              | $\frac{0.0}{8.0}$    |                                    |
| 55      | 62.77   | $\frac{+9.9}{10.5}$  | +5.3              | $\frac{+1.3}{8.3}$   |                                    |
| +50     | 61.01   | $\frac{+18.0}{12.5}$ | +12.4             | $\frac{+8.5}{10.1}$  |                                    |

-375

353+965 track chaining

-352

-352



|             | Area   | Cub. Yds |                                                                     |
|-------------|--------|----------|---------------------------------------------------------------------|
| Cut + Fill  | Exc.   | Emb.     |                                                                     |
| 50<br>Wall. | 57.65  | 17.8     | 52.7 Sta 53+10 to 53+70                                             |
|             | 00     | 170.79   | Exc 27.6 Cu. S.R.                                                   |
|             |        | 0.6      | 150.9                                                               |
| Wall        |        |          | Hand East from.                                                     |
| Slope       | 2.00   | 155.17   |                                                                     |
|             |        | 0.2      | 70.1                                                                |
| Wall        |        | 18.6     |                                                                     |
| Slope       | 0.0    | 223.13   | 9.0 S.R.                                                            |
|             |        | 27.6     |                                                                     |
|             |        | 21.61    |                                                                     |
| Wall        |        |          | Sta 53+10 to 54+90                                                  |
| Slope       | 360.30 |          | Emb 1245.2 Cu.                                                      |
|             |        |          | 404.0 made from cuts                                                |
| Wall        |        |          | at ends                                                             |
| Slope       | 366.90 |          |                                                                     |
|             |        | 178.9    |                                                                     |
| Wall.       |        |          | Sta 53+50 to 54+50                                                  |
| Slope       | 0.0    | 277.17   |                                                                     |
|             |        | 0.4      | 111.4                                                               |
| Wall        |        |          | Wall 35 thick at                                                    |
| Slope       | 2.10   | 123.78   | bottom                                                              |
|             |        |          | 2.0 thick at top.                                                   |
|             |        | 57.3     | 61.1 = 114.7 Cub. yds.                                              |
|             | 75.20  | 0.6      | 1245.2                                                              |
|             |        |          | Exc for wall                                                        |
|             |        | 31.4     | $\frac{1}{2}(3 \times 36 \times 60) = 12.4 \text{ Cu. S.R.}$        |
|             | 946.2  |          | Sta 53+70 to 54+40 Exc                                              |
|             |        | 31.55    | terrace $\frac{1}{2}(3 \times 3 \times 70) = 11.7 \text{ Cu. S.R.}$ |
|             | 246.12 |          |                                                                     |
|             |        | 255.1    |                                                                     |
|             |        | 1059.7   |                                                                     |

Station Grade

L

C

R

55+75 596013

$$\begin{array}{r} +12.0 \\ 13.0 \end{array}$$

+15.2

$$\begin{array}{r} +11.0 \\ 10.8 \end{array}$$

56+35

$$\begin{array}{r} +12.6 \\ 11.2 \end{array}$$

+8.4

$$\begin{array}{r} +4.5 \\ 9.1 \end{array}$$

+60.

-3.52

$$\begin{array}{r} +8.5 \\ 10.1 \end{array}$$

+3.8

$$\begin{array}{r} 0.0 \\ 8.0 \end{array}$$

+85

$$\begin{array}{r} +11.0 \\ 8.3 \end{array}$$

-4.4

$$\begin{array}{r} -15.2 \\ 26.3 \end{array}$$

57

-3.52

$$\begin{array}{r} +13.3 \\ 8.8 \end{array}$$

$$\begin{array}{r} 0.0 \\ 2.5 \end{array}$$

-0.9

$$\begin{array}{r} -9.1 \\ 18.4 \end{array}$$

+03

5955.62

+20

$$\begin{array}{r} +7.6 \\ 9.9 \end{array}$$

+3.5

$$\begin{array}{r} 0.0 \\ 8.0 \end{array}$$

+60

-3.75

$$\begin{array}{r} +9.2 \\ 10.3 \end{array}$$

+5.0

$$\begin{array}{r} +1.3 \\ 8.3 \end{array}$$

+75

$$\begin{array}{r} +7.6 \\ 4.9 \end{array}$$

+4.3

$$\begin{array}{r} 0.0 \\ 8.0 \end{array}$$

+99

5952.02

58+25

$$\begin{array}{r} +4.3 \\ 9.1 \end{array}$$

0.0

$$\begin{array}{r} -8.3 \\ 17.4 \end{array}$$

+55

-4.00

$$\begin{array}{r} 0.0 \\ 8.0 \end{array}$$

-2.9

$$\begin{array}{r} -9.7 \\ 19.1 \end{array}$$



| Area   | Cub. Yds. | Exc.    | Emb.                                  |
|--------|-----------|---------|---------------------------------------|
| Cut    | Fill      |         |                                       |
|        |           | 659.7   |                                       |
| 30488  |           |         | Sta 54+35 to 56+85 Exc 1629.5         |
|        |           |         | Slips 2014 See Page 63, class         |
|        |           | 509.5   | $\frac{1}{2}$ Loose Rock = 100.7 C.Y. |
| 153.66 |           |         | Balance of Cut Solid Rock = 1528.87   |
|        |           | 102.8   | Haul, See P 63 = 2450                 |
| 6839   | 00        |         |                                       |
|        |           | 322     | 386                                   |
|        |           | 1304.2  |                                       |
| 110    | 12496     | 1234.56 |                                       |
|        |           | 201.4   | Slips See P. 63                       |
|        |           | 1629.5  |                                       |
|        |           | 2.8     | 462                                   |
| 907    | 41.25     |         |                                       |
|        |           | 26.2    | 10.2                                  |
| 61.72  | 0.0       |         | 95.0                                  |
|        |           |         | Sta 56+85 to 58+05                    |
| 88.50  |           | 111.3   | Exc 369.0 — Class Slips               |
|        |           |         | $\frac{1}{2}$ L.R. = 14.8 C.Y.        |
|        |           |         | Balance Cut                           |
|        |           | 437     | Solid Rock = 354.2 C.Y.               |
| 68.88  | 0.0       |         | Haul 139.7 East from                  |
|        |           |         | " 1.60 from 57+60 to 58+80            |
|        |           | 79.7    | 18.0 = 190 Haul                       |
| 1720   | 29.05     |         |                                       |
|        |           | 6.4     | 56.8                                  |
| 0.0    |           | 270.1   |                                       |
|        |           | 69.3    | 55.                                   |
| 7325   |           | 29.6    | Slip P. 63                            |
|        |           | 369.0   | 911.5                                 |
|        |           |         | 986.3                                 |

Station Grade

L

C

R

59+10 5947.58

$\frac{-13.0}{23.3}$

-19.8

$\frac{-30.0}{44.5}$

+50 48.98

$\frac{-7.9}{16.9}$

-13.4

$\frac{-24.4}{37.5}$

60+01 5943.94

+13 43.49

$\frac{0.0}{8.0}$

-2.6

$\frac{-10.1}{19.6}$

+45 42.27

$\frac{+8.8}{10.2}$

+4.5

$\frac{0.0}{8.0}$

61+00 40.22

$\frac{+10.3}{10.6}$

+4.9

$\frac{+1.4}{8.4}$

+50 38.34

$\frac{+12.5}{11.1}$

+6.9

$\frac{+2.2}{8.6}$

62 36.46

$\frac{+11.4}{10.9}$

+6.1

$\frac{+2.6}{8.7}$

+50 34.58

$\frac{+10.9}{10.7}$

+5.4

$\frac{+1.1}{8.3}$

+80 33.46

$\frac{+8.4}{10.1}$

+4.5

$\frac{+0.6}{8.2}$

+87 33.20

$\frac{+7.4}{9.8}$

+3.5

$\frac{0.0}{8.0}$



Area Cub Yds  
Cut Fill Exc. Emb.

|        |       |               |                                       |
|--------|-------|---------------|---------------------------------------|
|        |       | 986.3         | Sta 57+75 to 60+45                    |
| 821.72 |       |               | Emb 2617.0                            |
|        |       |               | 1091.6 made from Cuts                 |
|        |       | 962.1         | net                                   |
|        |       |               | 1423.4 made " " East                  |
| 477.53 |       |               | balance made from                     |
|        |       |               | 640.2 Pit on L 58+53                  |
| 0.0    | 71.23 |               | See P 63.                             |
|        |       | 30.1          | Borrow 57.0 @ 1.0 L.O.R.              |
|        |       | 28.1          | " 25.5 " Solids                       |
| 761.5  | 0.0   | <u>2617.0</u> |                                       |
|        |       | 172.6         |                                       |
| 933.5  |       |               | Sta 60+13 to 63+80                    |
|        |       | 203.8         | Exc. 1123.7 Cub Yds. Solids Rock      |
| 126.77 |       |               | Have 85.5 East free                   |
|        |       | 224.6         | " 156. West "                         |
| 115.78 |       |               | " 100 from 61+80 to 64+50 = 1820 C.Y. |
|        |       | 199.2         |                                       |
| 993.0  |       |               |                                       |
|        |       | 98.0          |                                       |
| 771.8  |       |               | ✓                                     |
|        | 0.0   | 17.9          |                                       |
| 60.75  |       |               |                                       |
|        |       | 32.2          | 55.6                                  |
|        |       | 978.4         | 58.6                                  |

Sta Station Grade L C R

59

63+15 5932.15

+1.4 00  
8.4 60 -4.1 -22.1  
34.7

60

+40 31.21

+6.0 00  
9.5 +0.3 1.0 -12.2  
22.3

+58<sup>8</sup> 5930.49

+75 29.85

+6.3 00  
9.6 +0.4 1.0 -8.1  
17.1

+80 29.65

+6.0 00  
9.5 +1.0 0.0  
8.0

61

64+00 28.85

+3.1  
8.9 +3.1 +3.0  
8.8

+30 27.65

+6.6 00  
9.7 +3.7 8.0

62

+57 5926.56

+60 26.45

+9.7 00  
10.4 +4.8 +0.5  
8.1

+85 25.53

+9.6 00  
10.4 +4.1 8.0

65+10 24.61

+7.0 00  
9.8 +2.1 3.5 -5.0  
13.3



Area      Cub. Yds.  
Cut   Fill   Exc   Emb.

778.4      55.6

62+87 to 63+80

140      16078

Emb 1880 Coy.  
made from cuts  
at ends.

12.5      91.4

2558      3660

35.0      39.5

2732      2430

56      1.5

32.75

00

1031.5  
42.2      188.0

1123.7

31.8

5304

62.3

5915

80.2

8520

74.7

7612      00

54.7      2.7

4196      87.5

51.3      2.7

355.0

5.4

Station Grade L C R

5  
65+35  $\begin{array}{r} 19.6 \\ -3.6 \\ \hline \end{array}$  23.69  $\begin{array}{r} +8.8 \\ 10.2 \end{array}$  +3.7  $\begin{array}{r} 0.0 \\ 8.0 \end{array}$

+47  $\circ$  5923.26

6  
+55 23.00  $\begin{array}{r} +17.0 \\ 12.3 \end{array}$  +11.8  $\begin{array}{r} +6.3 \\ 9.6 \end{array}$

66 21.48  $\begin{array}{r} +23.1 \\ 13.8 \end{array}$  +17.3  $\begin{array}{r} +12.0 \\ 11.0 \end{array}$

+50  $\begin{array}{r} 9.3 \\ -3.3 \\ \hline \end{array}$  19.80  $\begin{array}{r} +28.6 \\ 15.2 \end{array}$  +23.2  $\begin{array}{r} +18.0 \\ 12.5 \end{array}$

61  
67  $\begin{array}{r} 9.3 \\ -3.3 \\ \hline \end{array}$  18.12  $\begin{array}{r} +19.2 \\ 12.8 \end{array}$  +13.8  $\begin{array}{r} +9.0 \\ 10.3 \end{array}$

+50 16.44  $\begin{array}{r} +10.0 \\ 10.5 \end{array}$  +7.2  $\begin{array}{r} +5.5 \\ 9.4 \end{array}$

6  
+57.8  $\circ$  5916.38

+70 15.72  $\begin{array}{r} +3.6 \\ 8.9 \end{array}$  +1.1  $\begin{array}{r} 0.0 \\ 8.0 \end{array}$

+80  $\begin{array}{r} 19.6 \\ -3.6 \\ \hline \end{array}$  15.36  $\begin{array}{r} 0.0 \\ 8.0 \end{array}$  -2.0  $\begin{array}{r} -2.0 \\ 9.5 \end{array}$

68+15  $\begin{array}{r} 19.6 \\ -5.6 \\ \hline \end{array}$  14.08  $\begin{array}{r} -5.6 \\ 14.0 \end{array}$  -11.1  $\begin{array}{r} -17.3 \\ 28.7 \end{array}$

+41.8  $\circ$  5913.08



Area  
Cut Fill

Cub. Yds.  
Exc Emb.

3550

Sta 63+80 to 69+80

6887

Total Exc. 3645.2 CY.

Class Slips 6288 CY. see P. 64

107.9

in Loose Rock = 314.4

222.41

Balance of Exc Solid R = 3330.8

481.1

Haul

8060.222 R64

354.92

798.8

507.72

722.1

272.19

375.8

1336.4

58.3

23.70

00

2.9

3.0

0.0

24.50

Slips

290.19

114.51

628.8 see P. 64

3645.2

221.4

317.14

662.5

886.9

1.11 on table  
30' K. 67+15  
3915.75

57 Station Grade L C R

68+50  $\begin{matrix} -4.00 \\ -3.63 \end{matrix}$  12.76  $\begin{matrix} -13.6 \\ 24.0 \end{matrix}$  -17.8  $\begin{matrix} -26.1 \\ 39.6 \end{matrix}$

+64 5912.19

69+05 10.71  $\begin{matrix} -30.4 \\ 45.0 \end{matrix}$  -35.6  $\begin{matrix} -40.2 \\ 57.3 \end{matrix}$

69+20 B.C.  $2 \times 2\frac{1}{2} \times 68$

+50 09.06  $\begin{matrix} -10.4 \\ 20.0 \end{matrix}$  -13.7  $\begin{matrix} -16.1 \\ 27.2 \end{matrix}$

$\begin{matrix} -3.63 \\ -3.63 \end{matrix}$

16' R.B.  $\frac{1}{4}:1$  Slope.

+78 08.04  $\begin{matrix} 0.0 \\ 8.0 \end{matrix}$  -1.1  $\begin{matrix} -2.9 \\ 10.6 \end{matrix}$

+83 07.86  $\begin{matrix} +3.1 \\ 8.8 \end{matrix}$  +1.1  $\begin{matrix} 0.0 \\ 8.0 \end{matrix}$

+85 5907.79

70+00 07.30  $\begin{matrix} +9.2 \\ 10.3 \end{matrix}$  +7.1  $\begin{matrix} +5.2 \\ 9.3 \end{matrix}$

+25 06.48  $\begin{matrix} +14.9 \\ 11.7 \end{matrix}$  +12.4  $\begin{matrix} +9.4 \\ 10.4 \end{matrix}$

+50 05.66  $\begin{matrix} +17.4 \\ 12.4 \end{matrix}$  +13.9  $\begin{matrix} +11.2 \\ 10.8 \end{matrix}$

$\begin{matrix} -3.28 \\ -3.28 \end{matrix}$

71+00 04.02  $\begin{matrix} +16.6 \\ 12.2 \end{matrix}$  +13.6  $\begin{matrix} +10.8 \\ 10.7 \end{matrix}$



Area      Cub. Yds.  
Cut Fill   Exc Emb.

886.9

Sta 67+70 to 69+83

704.99

Emb. 6008.9 Made

2824.8 from Cuts at Ends  
and Small borrow  
pits at Ends.

2068.04

2070.1 See Page 65

416.07

Borrow 3070.4

Solid R. 75.7"

225.8

0.0

2038

1.3

1.3

2164

0.0

6008.9

46.8

127.18

167.3

234.22

236.0

275.64

500.9

265.32

407.3

1359.6

Station Grade L C R

71+50 5902.38  $\frac{+10.3}{10.6}$  +9.4  $\frac{+8.9}{10.2}$

+80 01.40  $\frac{+2.7}{8.7}$  +2.7  $\frac{+2.6}{8.7}$

72+00 00.75  $\frac{+1.0}{8.3}$  +0.6  $\frac{0.0}{8.0}$

+10 00.43  $\frac{0.0}{8.0}$  -0.6  $\frac{-0.1}{7.2}$

6 72+40 B.C. 2x3 1/2 x 48

+50 99.11  $\frac{-18.7}{30.4}$  -20.6  $\frac{-14.6}{25.3}$

+60 98.79  $\frac{-13.3}{23.9}$  -20.3  $\frac{-19.3}{31.1}$

+75 98.29  $\frac{-9.4}{18.8}$  -17.2  $\frac{-23.3}{36.2}$

73+00 97.47  $\frac{-7.8}{16.8}$  -14.1  $\frac{-23.5}{17.0}$   $\frac{-28.7}{42.9}$

+45 96.00  $\frac{0.0}{8.0}$  -2.7  $\frac{-9.0}{18.3}$



Area      Cub. Yds.  
Cut Fill    Exc. Emb.

1359.6

69+78 to 72+10 Exc 2066.2<sup>am</sup>

174.56

Slips 430.9 See Page 65

121.8

Class "v Loose Rock" 215.5 cu

446.9

Balance of Cut Solid Rock 1850.7<sup>0</sup>

19.8 Haul 1880.

889

00

1.1 0.6

0.0

4.91

1502.3

183.056

430.9 Slips

7066.2 514.9

690.26

252.3 72 to 73+80

672.35

Emb 2286.2 Cuy.

349.9 Made from Cuts

587.45

at Ends of ditch

561.9 72+95-74+55

626.17

577.6

0.0

67.00

6.5

29.0

6.5

2286.2

| Station | Grade | L | C | R |
|---------|-------|---|---|---|
|---------|-------|---|---|---|

|       |       |                    |      |                   |
|-------|-------|--------------------|------|-------------------|
| 73+80 | 94.86 | $\frac{+2.1}{8.5}$ | +0.8 | $\frac{0.0}{8.0}$ |
|-------|-------|--------------------|------|-------------------|

|    |       |                    |      |                    |
|----|-------|--------------------|------|--------------------|
| 74 | 94.19 | $\frac{+1.4}{8.4}$ | +0.6 | $\frac{+0.4}{8.1}$ |
|----|-------|--------------------|------|--------------------|

|     |       |                    |      |                   |
|-----|-------|--------------------|------|-------------------|
| +05 | 94.03 | $\frac{+0.5}{8.1}$ | +0.2 | $\frac{0.0}{8.0}$ |
|-----|-------|--------------------|------|-------------------|

|     |       |                   |     |                    |
|-----|-------|-------------------|-----|--------------------|
| +10 | 93.87 | $\frac{0.0}{8.0}$ | 0.0 | $\frac{-0.4}{7.5}$ |
|-----|-------|-------------------|-----|--------------------|

|     |       |                     |      |                     |
|-----|-------|---------------------|------|---------------------|
| +50 | 92.55 | $\frac{-6.1}{16.2}$ | -6.7 | $\frac{-6.0}{16.0}$ |
|-----|-------|---------------------|------|---------------------|

74+90 B.C. 2 x 3 1/2 x 44

|     |       |                     |       |                      |
|-----|-------|---------------------|-------|----------------------|
| +90 | 91.19 | $\frac{-9.1}{20.7}$ | -10.6 | $\frac{-14.5}{28.8}$ |
|-----|-------|---------------------|-------|----------------------|

|       |       |                      |       |                      |
|-------|-------|----------------------|-------|----------------------|
| 75+10 | 90.54 | $\frac{-15.0}{29.5}$ | -14.5 | $\frac{-14.7}{29.1}$ |
|-------|-------|----------------------|-------|----------------------|

|     |       |                      |       |                      |
|-----|-------|----------------------|-------|----------------------|
| +20 | 90.22 | $\frac{-11.5}{24.3}$ | -17.4 | $\frac{-16.0}{31.0}$ |
|-----|-------|----------------------|-------|----------------------|

|     |       |                     |      |                      |
|-----|-------|---------------------|------|----------------------|
| +45 | 89.40 | $\frac{-6.2}{16.3}$ | -9.5 | $\frac{-20.9}{38.4}$ |
|-----|-------|---------------------|------|----------------------|



Area      Cub. Yds.  
Cut Fill   Exc. Emb.

6.5

Sta 73+45 to 74+10 4 18.2 Cy.  
class Lo Run

1500      00

10.0

Sta 72+95 to 74+55

1215

Exc. Ditch on Left Sec P. 66  
285.8 Cub. yds. 30' L 73+75

1.5

Class 1/2 Loose Rock = 142.9 Cy.  
1/2 Solid "      142.9 "

361      0.0

Haul 210.

0.2

18.2

0.0      1.40

74.9 Sta 74+05 to 76+05

150.22

Embank 1881.2 Cy.

366.8 Made from Cur East

344.95

323.6

528.80

204.8

577.36

431.5

354.67

311.71713.3

# Section 2

Station Grade L C R

75+70 88.58  $\frac{-6.7}{171}$  -10.0  $\frac{-15.9}{30.8}$

+85 88.09  $\frac{-6.6}{16.9}$  -5.1  $\frac{-5.4}{8.0}$   $\frac{-8.5}{19.8}$

16' R.B. 1/4:1 Slope.

76  $\begin{matrix} 5.28 \\ - \\ 328 \end{matrix}$  87.63  $\frac{0.0}{8.0}$  -0.8  $\frac{-1.4}{9.1}$

+05 87.44  $\frac{+1.5}{8.4}$  +0.9  $\frac{0.0}{8.0}$

+20 86.98  $\frac{+7.0}{9.8}$  +6.1  $\frac{+5.3}{9.3}$

+20  $\begin{matrix} 5 \\ \bullet \end{matrix}$  5886.93

+55 85.69  $\left(\frac{W.S.}{200}\right) \frac{+19.1}{128}$  +17.2  $\frac{+14.8}{11.7}$

+80 84.98  $\left(\frac{W.S.}{200}\right) \frac{+24.2}{14.1}$  +20.6  $\frac{+18.0}{12.5}$

77  $\begin{matrix} -36.3 \end{matrix}$  84.06  $\left(\frac{W.S.}{200}\right) \frac{+25.9}{14.5}$  +21.1  $\frac{+13.7}{11.4} \left(\frac{W.S.}{200}\right)$

+25 83.15  $\left(\frac{W.S.}{200}\right) \frac{+21.8}{13.5}$  +16.2  $\frac{+12.6}{11.2} \left(\frac{W.S.}{200}\right)$

+41.6  $\begin{matrix} -4.0 \\ \bullet \end{matrix}$  5882.53



Area      Cub. Yds.  
Cut Fill   Exc Emb

1713.3

1123

31860

1267

13580

410

0.0

11.74

0.8

0.7

1338

00

1881.2

33.6

10745

294.1

346.30

365.3

442.78

323.8

43164

356.2

337.67

305.9

1679.7

Station Grade L C R

$$77+54 \begin{array}{c} -4.0 \\ \bullet \end{array} 5882.03 \begin{array}{c} (WS) \\ 200 \end{array} \begin{array}{c} +16.7 \\ 12.2 \end{array} +12.0 \begin{array}{c} +8.0 \\ 10.0 \end{array}$$

$$+80 \begin{array}{c} 9.6 \\ -3.6 \\ \bullet \end{array} 81.08 \begin{array}{c} (WS) \\ 200 \end{array} \begin{array}{c} +14.0 \\ 11.5 \end{array} +10.4 \begin{array}{c} +6.6 \\ 9.7 \end{array}$$

$$78+10 \begin{array}{c} -3.6 \\ \bullet \end{array} 5879.98 \begin{array}{c} (WS) \\ 200 \end{array} \begin{array}{c} +12.7 \\ 11.2 \end{array} +9.1 \begin{array}{c} +6.1 \\ 9.5 \end{array}$$

$$+40 \quad 78.98 \quad \begin{array}{c} +26.1 \\ 14.5 \end{array} +10.1 \begin{array}{c} +17.0 \\ 12.3 \end{array}$$

$$+50 \quad 78.65 \begin{array}{c} (WS) \\ 150 \end{array} \begin{array}{c} +27.0 \\ 14.8 \end{array} +12.8 \begin{array}{c} +18.4 \\ 12.6 \end{array} \begin{array}{c} (WS) \\ 200 \end{array}$$

$$+90 \begin{array}{c} 9.6 \\ -3.6 \\ \bullet \end{array} 77.31 \begin{array}{c} (WS) \\ 150 \end{array} \begin{array}{c} +32.8 \\ 16.2 \end{array} +27.0 \begin{array}{c} +22.1 \\ 13.5 \end{array} \begin{array}{c} (WS) \\ 150 \end{array}$$

$$79+20 \begin{array}{c} -3.6 \\ \bullet \end{array} 76.31 \begin{array}{c} (WS) \\ 200 \end{array} \begin{array}{c} +31.7 \\ 15.8 \end{array} +24.0 \begin{array}{c} +18.7 \\ 12.6 \end{array} \begin{array}{c} (WS) \\ 200 \end{array}$$

$$+50 \quad 75.30 \begin{array}{c} (WS) \\ 200 \end{array} \begin{array}{c} +22.1 \\ 13.5 \end{array} +17.2 \begin{array}{c} +12.9 \\ 11.2 \end{array} \begin{array}{c} (WS) \\ 150 \end{array}$$

$$+62 \begin{array}{c} 3 \\ \bullet \end{array} 5874.86$$

$$+80 \begin{array}{c} -3.6 \\ \bullet \end{array} 74.22 \begin{array}{c} +12.0 \\ 11.0 \end{array} +10.1 \begin{array}{c} +7.3 \\ 9.8 \end{array}$$



Area      Cub. Yds.  
Cut Fill    Exc Emb.

1679.7

232.00

Sta 76 to 80+13

2045 Total Exc. 5739.5 Cu. Y.

192.64

Slips 5537 Cu. See Page 67.

201.1

Class & Lo. Rock = 276.9 Cu.  
Balance of Cut S.R. = 5462.5

16939

339.5 Name 13940. See P 67

441.74

1733

493.96

825.6

620.55

643.8

538.40

494.9

352.42

297.0

182.24

81.1

4940.5

Station Grade L C R

80 +00 73.49  $\frac{+4.3}{9.1}$  +2.3  $\frac{0.0}{8.0}$

-3.66

+13 73.02  $\frac{0.0}{8.0}$  -2.6  $\frac{-8.2}{19.3}$

+18<sup>3</sup> 5872.81

+55  $\frac{-4.6}{13.9}$  -10.1  $\frac{-24.8}{44.2}$

-4.00

81 69.55  $\frac{-4.2}{13.2}$  -10.9  $\frac{-37.2}{62.8}$

14' RB 1 1/4:1 slope

+40 67.95  $\frac{-9.0}{18.3}$  -14.5  $\frac{-30.8}{45.3}$

-4.00

+75 66.55  $\frac{-14.0}{24.5}$  -23.0  $\frac{-35.2}{57.3}$

82 376.00 65.55  $\frac{-16.6}{27.8}$   $\frac{-19.1}{22.0}$   $\frac{-24.4}{6.0}$  -24.8  $\frac{-25.7}{12.0}$   $\frac{-35.2}{26.0}$   $\frac{47.1}{65.9}$

-4.00

+20 64.75  $\frac{-11.7}{21.6}$  -19.6  $\frac{-26.6}{15.0}$   $\frac{-39.2}{56.0}$

+30 64.35  $\frac{-11.0}{20.8}$  -19.0  $\frac{-34.7}{50.4}$



Area  
Cut Fill

Cub. Yds.  
Exc. Emb.

4940.5

3686 0.0

B.M. 077 Stump  
50' R 80 + 25  
5859.18

5.9 10.3

00 64.19

4946.4  
239.459.

Slips

553.7

5739.5

358.2

39630

23.7

add for shaft  
8.0 x 8.0 x 100  
= 237

7962

559.10

860.0

60185

1067.1

1044.60

1136.7

1410.59

656 ←

add for open  
cut 40.0 c. 4

888.2

add for  
shaft  
5.0 x 6.0 x 23.0  
256 c. 4

98763

337.8

83635

565.3

6109.1

471  
659

Station Grade

L

C

R

82 + 55 63.35

$\frac{-6.5}{15.1}$

-10.4

$\frac{-2.47}{37.9}$

16' R.B.  $\frac{1}{4}$ :1 Slope

83 + 25 60.55

$\frac{0.0}{8.0}$

-2.8

$\frac{-10.1}{22.2}$

+62 59.07

$\frac{+4.6}{9.2}$

+1.8

$\frac{0.0}{8.0}$

+89 58.57.98

+90 57.95

$\frac{+9.7}{10.4}$

+6.3

$\frac{+3.9}{9.0}$

84 + 25 56.66 (WS 20.0)

$\frac{+13.5}{11.4}$

+9.0

$\frac{+5.5}{9.4}$

+79 54.54.68

+80 54.65 (WS 20.0)

$\frac{+10.2}{10.6}$

+6.4

$\frac{+2.3}{8.6}$

85 + 15 53.48

$\frac{+9.8}{10.5}$

+4.8

$\frac{+1.4}{8.4}$

+50 52.31 (WS 20.0)

$\frac{+16.1}{12.0}$

+9.6

$\frac{+5.4}{9.4}$

86 + 12 50.23

$\frac{WS}{20.0} \frac{+24.4}{14.1}$

+18.8

$\frac{+13.1}{11.3} (WS 15.0)$



Area      Cub. Vds.  
Cut Fill    Exc    Emb.

6109.1

Sta 80 to 83 + 62

Embkt. 6743.9 C.Y.  
made from cuts  
at ends.

384.80

5994

0.0

77.63

15.5    35.4

33.88

0.0

6743.9

77.4

115.57

184.8

169.60

286.3

111.44

130.7

90.16

180.8

188.72

663.0

388.76

529.7

2068.2

✓

Station Grade L C R

86 + 50 48.96 <sup>(WS)</sup><sub>200</sub> +24.7  
<sub>33.6</sub> 14.2 +17.1 +12.2 <sup>(WS)</sup><sub>200</sub>  
<sub>11.1</sub>

87 + 05 47.12 <sup>(WS)</sup><sub>200</sub> +29.8  
<sub>21.5</sub> 15.5 +23.8 +18.1 <sup>(WS)</sup><sub>200</sub>  
<sub>12.6</sub>

+50 45.61 +22.2  
13.6 +16.0 +11.4 <sup>(WS)</sup><sub>200</sub>  
10.9

88 -33.6 43.93 +14.7  
11.7 +9.0 +4.5  
9.1

+50 42.25 +9.1  
10.3 +4.8 +0.9  
8.2

+80 41.25 <sup>319.20</sup> +7.1  
9.8 +3.1 0.0  
8.0

89 + 10 40.25 0.0  
80 -3.1 -14.0  
28.0  
<sub>33.6</sub>

+50 38.91 <sup>270</sup> -6.0  
16.0 -10.7 16.1 -44.7  
17.0 74.1

90 + 00 37.17 -23.3  
36.1 -33.8 -67.4  
91.3



Area      Cub. Yds.  
Cut Fill    Exc. Emb.

20682

Sta 83+25 to 89+10

363.92

Exc 6575.6 Cut Yds Solid Rock

907.6 Haul. Sec P 68, 19240

527.19

714.6

330.40

463.7

170.40

236.0

84.40

78.0

55.99      00

20.7

0.0

|        |         |           |
|--------|---------|-----------|
| 104.80 | 4488.8  |           |
|        | 32685.6 | 388       |
| Slips  | 1760.0  | Sec P. 68 |
|        | 6575.6  | 500.3     |

576.56

2815.8

2470.51

5985.6

93495

Station Grade L C R

90 + 50  $\overset{-336}{354.9}$   $\overset{-31.2}{46.0}$  -45.0  $\overset{-80.0}{98.0}$   $\overset{-80.6}{107.8}$

+79  $\overset{-336}{5834.52}$

+85  $33.94$   $\overset{-32.8}{48.0}$   $\overset{-44.8}{20.0}$   $\overset{-48.5}{51.5}$   $\overset{-64.8}{26.0}$   $\overset{-61.1}{60.0}$   $\overset{83.4}{83.4}$

91 + 15  $\overset{-367}{35}$   $\overset{-33.3}{48.7}$  -34.1  $\overset{-50.3}{50.0}$   $\overset{-48.0}{67.0}$

+35  $19.5$   $\overset{-20.5}{32.6}$  -24.2  $\overset{-41.6}{47.0}$   $\overset{-38.6}{55.3}$

+55

$\overset{-10.0}{19.5}$  -19.5  $\overset{-34.0}{49.5}$

+69  $\overset{-367}{5831.22}$

+90  $30.38$   $\overset{-3.0}{11.5}$   $\overset{-4.4}{7.0}$   $\overset{-5.4}{7.0}$   $\overset{-6.1}{7.0}$   $\overset{-10.3}{23.5}$

$\times 100$

+97  $\overset{-400}{30.10}$   $\overset{0.0}{8.0}$  -0.8  $\overset{-1.3}{9.0}$

92 + 00  $\overset{+2.0}{8.5}$  +15  $\overset{0.0}{8.0}$

+01  $\overset{-367}{5829.94}$

+41  $28.48$   $\overset{(WS)}{20.0}$   $\overset{+24.7}{14.2}$  +20.0  $\overset{+16.0}{12.0}$   $\overset{(WS)}{20.0}$

+71  $\overset{-367}{27.37}$   $\overset{(WS)}{20.0}$   $\overset{+36.5}{17.1}$  +29.1  $\overset{+23.8}{14.0}$   $\overset{(WS)}{20.0}$



Area      Cub. Yds.  
Cut Fill    Exc. Emb.  
93405

6  
8

399390

Sta 88+80 to 92

Emb'd. 20697.4 Cuft.

-61!  
83.4

3742.11

5014.1

8688.1 Made from Cut West

3161.0 " " " East

842.4 " " " 101+50

4476.1 " " " Tunnel

3441.4 3559.8 " " Measured

245243

Borrow Pits See Page

1431.7 69. Total in

Pits 2455.5 Cuft.

1413.15

829.6 Class 5% L.R. = 1399.6

826.75

" 43% Solid R. = 1055.9

621.2 Hand on Borrowed

131.73

Mat'l See P 69 = 3900.

18.5

0.0

113.5

Borrow was

0.8

0.4

Classed to Make

2038

0.0

20697.4

50<sup>th</sup> Mat'l as

338.0

per agreement of  
JC.

424.80

621.4

693.71

498.6

1458.8

Sta. Station Grade L C R

90 92 + 91 <sup>-36.7</sup> 5826.64 <sup>(WS 200)</sup> +34.7  
16.7 +28.7 +22.0  
13.5

93 + 05 <sup>(WS 200)</sup> +33.3  
16.3 +26.7 +20.6  
13.1

91 +30 +24.6  
14.2 +20.1 +15.8  
12.0

+50 <sup>-33.6</sup> +12.4  
11.1 +11.7 +9.7  
10.4

+65 <sup>-33.7</sup> +6.6  
9.6 +18 0.0  
8.0

+75 <sup>-33.6</sup> 0.0  
8.0 -33 -6.1  
16.2

94 + 00 <sup>-33.6</sup> -5.1  
14.7 -11.0 -54.0  
88.0

92 +25 <sup>-33.6</sup> -10.2  
22.3 -17.0 -54.4  
75.0

+50 -16.8  
28.0 -27.2 -57.7  
76.5 14.1

Note: Grade was changed from 92+91  
to 104+22.7 after cross sections were made.  
figures crossed out show "Construction Grade"  
not "Finished".



Area  
Cut Fill

Cub. Yds.  
Exc. Emb.  
1458.8

652.67

Sta 91+49 to 93+75

326.6 Total Exc. 2964.8 Cu. Yds.

608.09

Class Slips 286.4 See P. 70

478.2 1/2 Lo. Rock = 143.2 Cu.

424.91

Solid Rock →  
Balance of Cut = 2821.6 "

236.7 Haul, See Page 70 = 2600.

214.18

71.2

422.4

0.0

5.2 7.6

0.0

612.8

2576.7

101.756

Slips

286.4 See P 70

2964.8 3856

771.70

844.8

1053.15

1294.9

1743.95

2152.6

468.55

Station Grade

L C R

94 + 85

$\begin{array}{r} -22.0 \\ 34.5 \end{array}$  -31.6  $\begin{array}{r} -48.6 \\ 60.0 \end{array}$   $\begin{array}{r} -56.1 \\ 73.6 \end{array}$  14' Wall  
1:1

95 + 10

$\begin{array}{r} -25.6 \\ 39.0 \end{array}$  -30.6  $\begin{array}{r} -49.4 \\ 50.0 \end{array}$   $\begin{array}{r} -53.7 \\ 70.1 \end{array}$  16' Wall  
1:1

+24.7

~~58.18.79~~

+45

$\begin{array}{r} -35.8 \\ 57.8 \end{array}$  -37.5  $\begin{array}{r} -42.6 \\ 40.0 \end{array}$   $\begin{array}{r} -42.2 \\ 59.8 \end{array}$

+50

$\begin{array}{r} -34.0 \\ 49.5 \end{array}$  -39.8  $\begin{array}{r} -43.2 \\ 61.0 \end{array}$

+75

$\begin{array}{r} -21.5 \\ 33.9 \end{array}$  -34.2  $\begin{array}{r} -35.9 \\ 7.0 \end{array}$   $\begin{array}{r} -31.0 \\ 45.8 \end{array}$

96 + 15

$\begin{array}{r} -14.3 \\ 28.5 \end{array}$  -23.0  $\begin{array}{r} -23.6 \\ 100 \end{array}$   $\begin{array}{r} -17.2 \\ 32.8 \end{array}$

+45

$\begin{array}{r} -9.1 \\ 20.7 \end{array}$  -9.9  $\begin{array}{r} -13.5 \\ 15.0 \end{array}$   $\begin{array}{r} -11.5 \\ 24.3 \end{array}$

+73

$\begin{array}{r} 0.0 \\ 8.0 \end{array}$  -1.2  $\begin{array}{r} -5.5 \\ 15.3 \end{array}$

+88

$\begin{array}{r} +2.8 \\ 8.7 \end{array}$  +2.4  $\begin{array}{r} 0.0 \\ 8.0 \end{array}$



Area      Cub. Yds.  
Cut Fill    Exc. Emb.

4685.5

Wall  
il

15772.3

1704.0

Wall  
il

21034.2

2934.4

2423.99

453.1

2469.15

1882.4

1596.75

1815.4

8540.3

655.9

326.59

1866

0.0

332.3

58

6.1

312.4

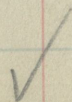
0.0

14323.4

26.4

32.2

1.1 on hub  
12.1 964.5  
= 5315.81



# Section 772

Station Grade L C R

97 + 00  $\frac{+7.9}{10.0}$  +5.0  $\frac{+2.4}{8.6}$

+25  $\frac{+18.4}{12.6}$  +11.8  $\frac{+8.1}{10.0}$

98 + 38  $\frac{+20.6}{13.2}$  +15.9  $\frac{+11.4}{10.9}$

+82 (WS 200)  $\frac{+33.1}{16.3}$  +27.7  $\frac{+22.6}{13.7}$

98 + 26 WS 150  $\frac{+44.0}{19.0}$  +37.5  $\frac{+32.8}{16.2}$

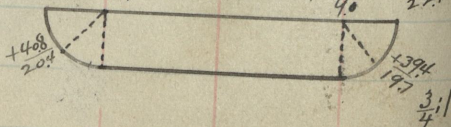
+59  $\frac{+50.6}{20.7}$  +43.1  $\frac{+38.3}{17.6}$

99  $\frac{+56.9}{22.2}$  +49.8  $\frac{+48.6}{7.0}$   $\frac{+50.9}{20.7}$

PORTAL

+19

$\frac{+59.0}{22.8}$   $\frac{+56.0}{9.0}$  +55.0  $\frac{+55.0}{9.0}$   $\frac{+56.2}{22.1}$



+38 TOP OF SLOPE

$\frac{+39.6}{19.8}$   $\frac{+37.9}{19.0}$   $\frac{+38.9}{19.5}$   $\frac{1/21}{1/21}$



Area  
Cut FillCub. Yds.  
Exc. Emb.  
32.2

877.0

Sta 96+73 to 99+19

151.4 Total Exc. 9331.4 Cub. Yds.

239.34

class Solid Rock

134.6 Haul See P. 71 = 27145.

319.59

780.5

638.30

1308.2 Sta 98 to 101+50

967.20

Borrow for backfilling

1312.8 Loose Rock 149.1 Cub. Yds.

1180.97

Hauled 300' = 449 yds haul

2022.8

1483.14

1114.2

1683.55

430.4

7287.1

132.7 add for Change Grade

136.7 S.S.

1774.9 Slips See P. 71

9331.4

Station Grade L C R

Tunnel as Finished

99+11 Face of West PORTAL

101+31.5 Face of East PORTAL

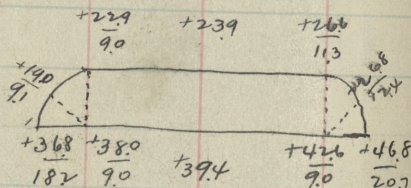
9

Top of Slope  
101+16

101+215 5798.44

PORTAL  
101+26

~~5799.41~~



+50

+24.8  
14.2

+26.9

+30.5  
15.6

+75

+11.4  
10.9

+15.4

+18.8  
12.7

102+04

0.0  
8.0

+3.8

+6.0  
9.5

+20

-8.4  
17.5

-4.2

0.0  
8.0

+35

~~5798.86~~

-9.3  
18.6

-8.2

-4.8  
13.0



Area      Cub. Yds.  
Cut Fill    Exc. Emb.

47

Sta 99+11 to 101+31.5

Tunnel 220.5 Linear Feet

Exc. 3027. Cub. yds.

Haul 287.0 from 99+20 to 90+70 = 2439.

" 2740 " 100+30 to 90+90 around

cut road = 41237.

Total Haul = 43676.

106.6

114130

Sta 101+16 to 102+20

783.7 Total Exc 1645.6 Cub. yds.

62201

36.4 Yds Slope see P. 72 Class

1/2 Ls Rock = 1822.4

4280 Balance of Cut Solid R = 16274.1

30252

Haul, see P. 72 = 11012.

193.2

5725

0.0

0.0

82.95

11.3

16.4

152.28

38.4 add for Grade Change

48.0 S.G.

36.4 Slopes see P. 72

72.7

1645.6

178.91

4365

5256

Station Grade L C R

9 103+00 ~~579370~~  $\frac{-2.7}{10.4}$  -6.9  $\frac{-14.6}{25.3}$

+15  $\frac{-3.7}{11.6}$  -6.6  $\frac{-11.7}{7.0}$   $\frac{-15.7}{190}$   $\frac{-14.4}{25.0}$

9 +250 ~~579288~~  $\frac{-5.2}{13.5}$  -10.5  $\frac{-16.6}{27.8}$

+50  $\frac{-0.8}{8.0}$  -5.2  $\frac{-16.2}{26.0}$   $\frac{-18.0}{29.5}$

+55  $\frac{0.0}{8.0}$  -3.3  $\frac{-18.2}{29.7}$

16' R.B. 1/4:1 Slope

+65  $\frac{+2.5}{8.6}$   $\frac{0.0}{4.0}$  -1.0  $\frac{-8.0}{18.0}$   $\frac{-15.4}{20.0}$   $\frac{-20.8}{33.0}$

102+00  $\frac{+7.2}{9.8}$  +3.2  $\frac{0.0}{4.5}$   $\frac{-3.6}{11.5}$

+15  $\frac{+8.6}{10.2}$  +2.1  $\frac{0.0}{8.0}$

+27  $\frac{1}{0.578951}$

+60  $\frac{+13.3}{11.3}$  +8.6  $\frac{+5.2}{9.3}$



| Area |      | Cub. Yds. |      |
|------|------|-----------|------|
| Cut  | Fill | Exc.      | Emb. |

525.6

183.71

117.8

240.38

98.8

293.18

209.4

159.15

26.4

0.0

125.91

0.6

36.5

5.00

71.30

36.7

49.1

51.68

4.50

31.7

0.8

62.61

0.0

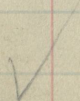
1064.4

187.5

162.58

306.6

563.1



# Section 2

Station Grade L C R

|        |         |               |       |               |             |              |
|--------|---------|---------------|-------|---------------|-------------|--------------|
| 105+00 | 5786.88 | +17.7<br>12.4 | +12.9 | +11.7<br>5.0  | +9.1<br>7.0 | +8.3<br>10.1 |
| +48    | 5785.11 |               |       |               |             |              |
| +50    |         | +21.2<br>13.3 | +15.8 | +11.2<br>10.8 |             |              |
| +58    | 5784.44 |               |       |               |             |              |
| 105+85 |         | +21.5<br>13.4 | +16.1 | +11.2<br>10.8 |             |              |

## Blocks Spur

84+29 Main Line -

|     |         |                           |                     |                            |
|-----|---------|---------------------------|---------------------|----------------------------|
| = 0 |         | 0.0<br>8.0                |                     | 0.0<br>8.0                 |
| +50 |         |                           |                     | 0.0 +7.3<br>6.3 9.2        |
| +85 |         |                           | 0.0                 | 0.0 +25 +40<br>3.5 5.0 9.0 |
| 1   | 0 60.39 |                           |                     | +3.4<br>0.0 8.9            |
| +25 |         | 0.0 -0.6<br>4.5 3.0 0.5   | 0.0 +2.0<br>3.0 8.5 |                            |
| +50 |         | -1.6 -2.7<br>9.4 9.0 0.5  | 0.0 +2.8<br>1.0 8.7 |                            |
| +75 | 0       | -4.0<br>12.0              | 0.0 +2.2<br>1.0 8.6 |                            |
| 2   |         | -3.8 0.0<br>11.8 2.5 +1.0 | +3.8<br>4.0         |                            |
| +20 | 0 60.39 | -2.2 0.0<br>9.8 0.5 +2.9  | +6.0<br>9.5         |                            |



Area Cub. Yds.  
Cut Fill Exc. Emb.

563.1

Sta 103+55 to 105+85

Exc 18472 Cu. Slips

217.0 Surf. 72. Class 1/2

Loose Rock = 108.5 Cu.

529.0 Balance of Cut

Solid Rock = 1738.7 "

251.34

319.99

418.4 Haul Sec. 72 = 6490.

325.61

SG

1510.5

119.7

217.0

1847.2

Slips Sec. 72

Exc on Spur 73.8 Cu. Solid Rock

0.0

5.5

12.88

7.4

13.60

0.0

8.4

0.8

5.00

2.85

6.9

7.6

9.80

13.59

8.1

13.7

7.70

15.95

13.0

11.3

20.45

8.55

24.5

3.8

45.75

1.65

73.8

37.2

# Section 2

Road for Carts around Tunnel

| Stations        | Width of base | Cut on Upper Side | Areas | Cu. Yds. Exc. |
|-----------------|---------------|-------------------|-------|---------------|
| 102+10 Mainline |               |                   |       |               |
| ± 0             | 12.0          | +10.0             | 60.00 |               |
| +50             | 10.4          | 5.8               | 30.16 | 83.4          |
| +75             | 7.0           | 4.2               | 14.70 | 20.8          |
| 1+05            | 7.6           | 6.0               | 22.80 | 20.8          |
| +15             | Boulder       | 6x8x10            |       | 17.8          |
| +25             | 9.0           | 6.2               | 27.90 | 18.8          |
| +50             | 9.0           | 6.2               | 27.90 | 25.8          |
| +75             | 9.4           | 5.8               | 27.26 | 25.6          |
| 2+05            | 7.4           | 4.5               | 16.65 | 24.4          |
| +40             | 9.6           | 5.2               | 24.96 | 26.9          |
| +85             | 8.5           | 5.0               | 21.25 | 38.5          |
| 3+10            | 7.4           | 5.0               | 18.50 | 18.4          |
| Ledge           | 3x6x8         |                   |       | 5.3           |
| +20             | 8.2           | 4.0               | 16.40 | 6.7           |
| +70             | 7.8           | 4.0               | 15.60 | 29.6          |
| +85             | 4.0           | 2.4               | 4.80  | 5.7           |
| 4               | 4.0           | 2.0               | 4.00  | 2.4           |
| +05             | 3.0           | 4.8               | 7.20  | 1.0           |
| +25             | 9.6           | 4.6               | 22.08 | 10.8          |
|                 |               |                   |       | 25.9          |
|                 |               |                   |       | 407.6         |



| Station | Width<br>base | Cut<br>Upside | Area  | Cu yds<br>excav.<br>407.6 |
|---------|---------------|---------------|-------|---------------------------|
| 4+60    | 7.8           | 4.6           | 17.94 | 25.9                      |
| +95     | 10.0          | 4.4           | 22.00 | 17.2                      |
| 5+15    | 9.8           | 5.0           | 24.50 | 35.2                      |
| +55     | 9.2           | 5.0           | 23.00 | 31.0                      |
| +80     | 8.0           | 11.0          | 44.00 | 4.0                       |
|         | Boulder 6x6x3 |               |       | 22.8                      |
| 6       | 7.0           | 5.0           | 17.50 | 21.7                      |
| +30     | 8.6           | 5.0           | 21.50 | 26.7                      |
| +65     | 9.0           | 4.4           | 19.80 | 25.1                      |
| 7+05    | 7.4           | 3.8           | 14.06 | 14.7                      |
| +35     | 5.0           | 5.0           | 12.50 | 10.2                      |
| +55     | 5.0           | 6.0           | 15.00 | 0.9                       |
| +60     |               | 0.0           | 0.0   | 643.0                     |

Excavate for cart Road 643.0 Cu yds.

Class between Sta 69 & 7+05 Loose Rock = 73.5 Cu yds.

Balance all Solid Rock = 569.5 "

From west end of Road to Sta 96+50 of line  
Fill 137.8 Cu yds hauled in from 101+60

Distance around tunnel over cart road  
from Sta 102 to 96+50 = 775 feet -

Section 2

Clearing

Sta 53 to 106 Clear 75' wide = 397500'

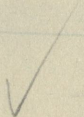
Cut Road 20 x 800 16000

Borrow Pit 90 to 92 50 x 200 10000

---

9.72 Acres = 423500'

---





500

000

00

500

# Section 2

| Page | Acres<br>Clearing | Excavation ~ Cub. Yards. |               |               | Lineal Feet<br>Tunnel |
|------|-------------------|--------------------------|---------------|---------------|-----------------------|
|      |                   | Total<br>in Cut Earth    | Loose<br>Rock | Solid<br>Rock |                       |
| 30   |                   | 27.6 ✓                   |               |               |                       |
| 30   |                   | 23.7 ✓                   |               | 27.6 ✓        |                       |
| 31   |                   | 1629.5 ✓                 | 100.7 ✓       | 1528.8 ✓      |                       |
| 31   |                   | 369.0 ✓                  | 14.8 ✓        | 354.2 ✓       |                       |
| 32   |                   |                          |               |               |                       |
| 32   |                   | 1123.7 ✓                 |               |               |                       |
| 32   |                   | 3645.2 ✓                 | 314.4 ✓       | 1123.7 ✓      |                       |
| 35   |                   |                          |               | 3330.8 ✓      |                       |
| 36   |                   | 2066.2 ✓                 | 215.5 ✓       | 1850.7 ✓      |                       |
| 37   |                   | 18.2 ✓                   | 18.2 ✓        |               |                       |
| 37   |                   | 285.8 ✓                  | 142.9 ✓       | 142.9 ✓       |                       |
| 39   |                   | 5739.5 ✓                 | 276.9 ✓       | 5462.6 ✓      |                       |
| 42   |                   | 6575.6 ✓                 |               | 6575.6 ✓      |                       |
| 43   |                   |                          |               |               |                       |
| 44   |                   | 2964.8 ✓                 | 143.2 ✓       | 2821.6 ✓      |                       |
| 46   |                   | 9331.4 ✓                 |               | 9331.4 ✓      |                       |
| 46   |                   |                          |               |               |                       |
| 47   |                   |                          |               |               |                       |
| 47   |                   | 1645.6 ✓                 | 18.2 ✓        | 1627.4 ✓      | 220.5 ✓               |
| 49   |                   | 1847.2 ✓                 | 108.5 ✓       | 1738.7 ✓      |                       |
| 49   |                   | 73.8 ✓                   |               | 73.8 ✓        |                       |
| 50   |                   | 6430 ✓                   | 73.5 ✓        | 569.5 ✓       |                       |
| 51   | 972               |                          |               |               |                       |
| 972  |                   | 38009.8 ✓                | 1426.8 ✓      | 36583.0 ✓     | 220.5 ✓               |

1000



# Summary

ineal Feet  
unnel

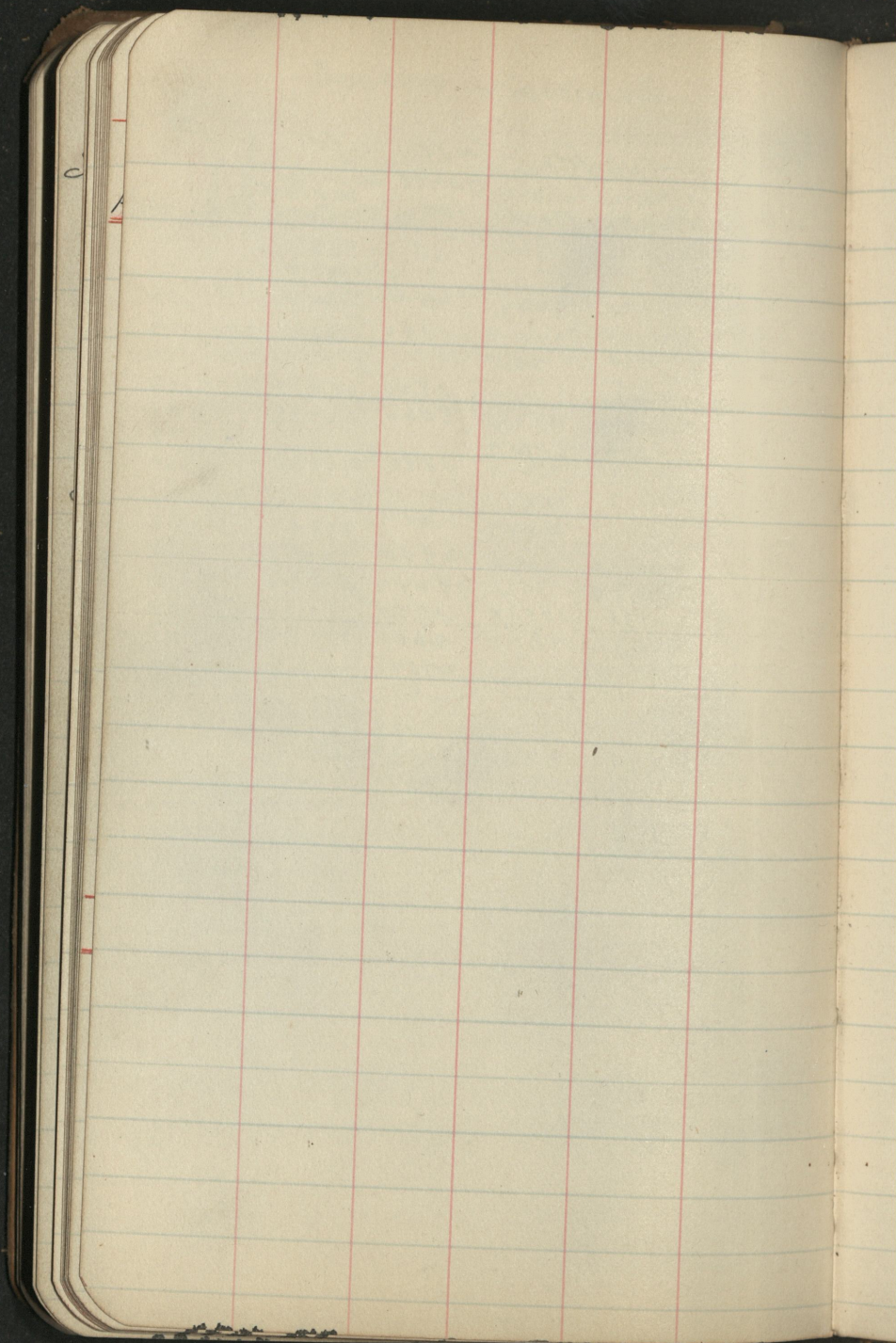
| Borrow-Cub. Yds. | Loose Rock | Solid Rock | CU. Yds. Hauled 100' | CU. Yds. Slope Wall and Rip Rap. |
|------------------|------------|------------|----------------------|----------------------------------|
| Earth            |            |            |                      |                                  |

52

|         |  |        |       |       |
|---------|--|--------|-------|-------|
|         |  |        | 2450  | 114.7 |
|         |  |        | 190   |       |
| 51.0    |  | 25.5   | 1820  |       |
|         |  |        | 8060  |       |
| 30.7    |  | 70.7   | 1880  |       |
|         |  |        | 210   |       |
|         |  |        | 13940 |       |
|         |  |        | 19240 |       |
| 1399.6  |  | 1055.9 | 3900  |       |
|         |  |        | 2600  |       |
| ✓ 149.1 |  |        | 27145 |       |
|         |  |        | 447   |       |
|         |  |        | 43676 |       |
|         |  |        | 11012 |       |
|         |  |        | 6490  |       |

One Block

|        |        |         |       |
|--------|--------|---------|-------|
| 1630.4 | 1157.1 | 14306.0 | 114.7 |
|--------|--------|---------|-------|





53

# Section 1

## Recess Sections of Cuts

Stations L C R

### Main Spur - Poland

$$H+75 \quad \begin{array}{r} +11.5 \\ 42.9 \end{array} \quad \begin{array}{r} +5.3 \\ 40.9 \end{array} \quad \begin{array}{r} +4.6 \\ 16.1 \end{array} \quad \begin{array}{r} .00 \\ 8.0 \end{array}$$

$$5 \quad \begin{array}{r} +18.0 \\ 44.5 \end{array} \quad \begin{array}{r} +4.7 \\ 40.6 \end{array} \quad \begin{array}{r} +3.8 \\ 1.0 \end{array} \quad \begin{array}{r} .00 \\ 8.0 \end{array}$$

$$+50 \quad \begin{array}{r} +9.0 \\ 42.3 \end{array} \quad \begin{array}{r} +4.5 \\ 39.4 \end{array} \quad \begin{array}{r} +4.0 \\ 14.0 \end{array} \quad \begin{array}{r} .00 \\ 8.0 \end{array}$$

$$6 \quad \begin{array}{r} +18.4 \\ 44.6 \end{array} \quad \begin{array}{r} +5.3 \\ 40.0 \end{array} \quad \begin{array}{r} +4.6 \\ 12.4 \end{array} \quad \begin{array}{r} .00 \\ 8.0 \end{array}$$

$$+20 \quad \begin{pmatrix} +15.2 \\ 42.0 \end{pmatrix} \quad \begin{pmatrix} 4.5 \\ 38.0 \end{pmatrix} \quad \begin{pmatrix} +4.4 \\ 14.0 \end{pmatrix} \quad \begin{pmatrix} .00 \\ 7.0 \end{pmatrix}$$

$$+50 \quad \begin{array}{r} +5.8 \\ 31.5 \end{array} \quad \begin{array}{r} +0.5 \\ 8.0 \end{array} \quad \begin{array}{r} .00 \\ 7.0 \end{array}$$

$$+60 \quad \begin{array}{r} .00 \\ 3.00 \end{array} \quad \begin{array}{r} .00 \\ 8.0 \end{array}$$

$$7 \quad \begin{array}{r} +8.3 \\ 10.1 \end{array} \quad \begin{array}{r} +4.6 \\ 7.0 \end{array} \quad \begin{array}{r} +4.0 \\ 65.55 \end{array} \quad \begin{array}{r} .00 \\ 8.0 \end{array}$$

$$+40 \quad \begin{array}{r} +14.3 \\ 11.6 \end{array} \quad \begin{array}{r} +7.4 \\ 11.0 \end{array} \quad \begin{array}{r} +5.2 \\ 7.6 \end{array} \quad \begin{array}{r} .00 \\ 5.0 \end{array} \quad \begin{array}{r} .00 \\ 12.0 \end{array}$$

$$+55 \quad \begin{array}{r} +13.0 \\ 11.3 \end{array} \quad \begin{array}{r} +6.8 \\ 11.0 \end{array} \quad \begin{array}{r} +5.6 \\ 6.0 \end{array} \quad \begin{array}{r} .00 \\ 6.0 \end{array} \quad \begin{array}{r} .00 \\ 8.0 \end{array}$$

$$+85 \quad \begin{array}{r} +1.0 \\ 8.3 \end{array} \quad \begin{array}{r} .00 \\ 8.0 \end{array}$$

+90

### Mill Spur - Poland

$$2+40 \quad \begin{array}{r} .00 \\ 8.0 \end{array}$$

+75

3

+125

$$+50 \quad \begin{array}{r} +22.4 \\ 29.2 \end{array} \quad \begin{array}{r} .00 \\ 3.0 \end{array}$$

$$+90 \quad \begin{array}{r} +22.0 \\ 28.1 \end{array} \quad \begin{array}{r} .00 \\ 2.3 \end{array}$$

$$H+10 \quad \begin{array}{r} +22.0 \\ 29.0 \end{array} \quad \begin{pmatrix} 2.6 \\ 22.0 \end{pmatrix} \quad \begin{array}{r} .00 \\ 4.7 \end{array} \quad \begin{pmatrix} +3.4 \\ \end{pmatrix} \quad \begin{pmatrix} .00 \\ 5.0 \end{pmatrix}$$

+30

+50



Cuts

after Work was Completed

54

Areas Cubic Yds  
Excav.

NOTE:— In recross sections  
figures enclosed in Brackets or  
ring show original surface.

|        |        |
|--------|--------|
| 42.48  | 128.4  |
| 234.96 | 231.3  |
| 1483   | 156.2  |
| 153.87 | 95.7   |
| 104.40 | 58.6   |
| 111.13 | 0.2    |
| 0.0    | 45.2   |
| 60.99  | 198.6  |
| 207.13 | 87.3   |
| 107.12 | 61.7   |
| 4.00   | 1.8    |
| 15.45  | 1065.0 |

|        |       |
|--------|-------|
| 0.0    | 15.9  |
| 37.11  | 31.6  |
| 31.16  | 17.6  |
| 6.75   | 93.4  |
| 194.97 | 282.0 |
| 185.78 | 131.3 |
| 168.80 | 69.2  |
| 18.13  | 45    |
| 0.0    | 645.5 |

# Section 1

Borrow Pit on R Sta 7+60 to 9+05 put

|     | L C   | R Areas                                              | Cu. Yds. |
|-----|-------|------------------------------------------------------|----------|
| 0   | (0.0) | $\frac{0.0}{9.5} \left( \frac{+0.8}{9.5} \right)$    | 3.80     |
| +10 | 00    | $\frac{0.0}{10.0} \left( \frac{+1.5}{10.0} \right)$  | 7.50     |
| +30 | (0.0) | $\frac{0.0}{11.0} \left( \frac{+1.0}{11.0} \right)$  | 5.50     |
| +35 | (0.0) | $\frac{0.0}{10.0} \left( \frac{+1.7}{12.0} \right)$  | 8.50     |
| +45 | (0.0) | $\frac{0.0}{15.5} \left( \frac{+2.7}{17.5} \right)$  | 20.92    |
| +50 | (0.0) | $\frac{0.0}{15.0} \left( \frac{+3.7}{18.5} \right)$  | 27.75    |
| +55 | (0.0) | $\frac{0.0}{14.5} \left( \frac{+5.4}{20.5} \right)$  | 39.15    |
| +60 | (0.0) | $\frac{0.0}{20.0} \left( \frac{+11.6}{33.0} \right)$ | 116.00   |
| +65 | (0.0) | $\frac{0.0}{23.0} \left( \frac{+12.6}{34.0} \right)$ | 144.90   |
| +70 | (0.0) | $\frac{0.0}{20.0} \left( \frac{+13.0}{33.5} \right)$ | 130.00   |
| +75 | (0.0) | $\frac{0.0}{17.0} \left( \frac{+14.1}{33.0} \right)$ | 119.85   |
| +80 | (0.0) | $\frac{0.0}{17.0} \left( \frac{+17.1}{35.0} \right)$ | 102.60   |
| +85 | (0.0) | $\frac{0.0}{18.5} \left( \frac{+16.3}{35.0} \right)$ | 93.73    |
| +90 | (0.0) | $\frac{0.0}{13.0} \left( \frac{+12.5}{27.0} \right)$ | 81.25    |
| +95 | (0.0) | $\frac{0.0}{13.0} \left( \frac{+11.4}{25.0} \right)$ | 74.10    |
| 1   | (0.0) | $\frac{0.0}{13.5} \left( \frac{+13.0}{25.5} \right)$ | 87.75    |
| +05 | (0.0) | $\frac{0.0}{16.0} \left( \frac{+9.6}{17.0} \right)$  | 76.80    |
| +10 | (0.0) | $\frac{0.0}{11.5} \left( \frac{+13.0}{24.0} \right)$ | 74.75    |
|     |       |                                                      | 13.4     |
|     |       |                                                      | 238.5    |



put

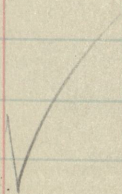
in fill opposite and wagon road xing

55

| Sta  | C.   | R.                 | Fracs                | Quicks<br>etc. |
|------|------|--------------------|----------------------|----------------|
| 1-15 | (00) | $\frac{0.0}{11.0}$ | $\frac{+12.8}{21.0}$ | 70.40          |
| +20  | (00) | $\frac{0.0}{13.5}$ | $\frac{+11.2}{29.5}$ | 75.60          |
| +25  | (00) | $\frac{0.0}{12.6}$ | $\frac{14.0}{28.5}$  | 88.20          |
| +30  | (00) | $\frac{0.0}{14.0}$ | $\frac{+13.7}{27.0}$ | 95.90          |
| +35  | (00) | $\frac{0.0}{16.5}$ | $\frac{+11.2}{23.5}$ | 92.40          |
| +40  | (00) | $\frac{0.0}{9.0}$  | $\frac{+10.6}{21.5}$ | 47.70          |
| +45  | (00) | $\frac{0.0}{6.0}$  | $\frac{+8.0}{13.0}$  | 24.00          |

321.2

class  $\frac{1}{4}$  Solid Rock = 80.3 Cu.  
 $\frac{3}{4}$  loose " 240.9 "



# Section 1

Stations

L

C

R

13+30

add 2x4x12

+50

+70

+75

+82

+95

14+05

+25

+50

+75

+80

15+35

+75

16+15

+60

+75

15+40

Borrow Pit for Back filling 2x4x25.

17

19+60

19+90

+17.9  
12.5

0.0  
8.0

0.0  
18.0

+20.4  
13.1

0.0  
8.0

(41.3)

(+9.1)  
10.3

0.0  
19.3

+27.9 +14.4 0.0  
25.0 10.0 8.0

0.0 +15.3 +4.0  
14.0 14.0 16.5

+29.6 11.0 0.0  
27.0 10.0 8.0

0.0 +16.0  
8.0 12.0

+32.7 +18.5 14.6 0.0  
27.0 24.0 21.0 9.0

0.0 +12.3  
8.0 11.1

+26.0 +5.0 0.0  
28.0 17.0 8.8

0.0 +10.4  
9.0 13.8

+23.3 +12.4 +9.5 0.0  
19.8 16.0 12.8 8.0

0.0 +9.5  
12.5 13.8

+20.6 +6.7 (41.3) 0.0  
18.0 14.0 (12.4) 8.0

(11.0) (7.3) 0.0 +5.3  
11.0 15.4

+17.0  
12.3

0.0  
8.0

0.0  
10.0

+15.2  
14.0

17

19+60

19+90

" " " " " 3.5 x 8 x 20.

" " " " " 3.8 x 20 x 25.

" " " " " 2.5 x 15 x 23.



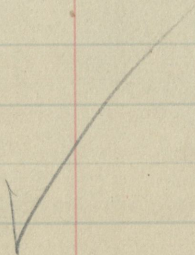
# Re Cross Sections

56

Areas Car. Yds.  
Excav.

|        |                                                        |
|--------|--------------------------------------------------------|
| 0.0    | <del>18.1</del><br>30                                  |
| 73.43  | 16.3 Bldr<br>120.6                                     |
| 252.31 | 53.3                                                   |
| 323.85 | 89.0 Sta 13+30 to 16+75                                |
| 362.48 | 211.9 Total Excav. 2466.0                              |
| 517.78 | In Original Sections 1806.3                            |
| 654.55 | 217.1 Slope = 600.3                                    |
| 609.54 | 15.3 Bldr<br>468.2                                     |
| 377.97 | 457.2 Haul 266.2 west from<br>" 69.3 east              |
| 323.13 | 324.6 " 1690 from 14+40 to 18+50 = 6930<br>waste 380.5 |
| 229.57 | 51.2                                                   |
| 48.56  | 283.3                                                  |
| 18.20  | 49.4                                                   |
| 7.50   | 19.0                                                   |
| 2.20   | 8.1                                                    |
| 0.0    | 0.4                                                    |
| 0.0    | 2406.0                                                 |

7.4 L.R.  
20.7 L.R.  
70.4 L.R.  
31.3 L.R.  
129.8



# Section 1

Station L C R

19+80

+95

20+10

+15

+40  $\frac{+18.2}{13.8}$   $\frac{0.0}{8.0}$   $\frac{0.0}{9.0}$   $\frac{+6.8}{17.0}$

+50  $\frac{+21.4}{13.4}$   $\frac{0.0}{8.0}$   $\frac{+16.0}{8.0}$   $\frac{+11.2}{10.8}$   $\frac{+9.3}{15.4}$

+65  $\frac{+30.6}{23.4}$   $\frac{+8.2}{10.0}$   $\frac{0.0}{8.0}$   $\frac{0.0}{8.0}$   $\frac{+10.4}{19.0}$

+90  $\frac{+30.5}{15.6}$   $\frac{+19.4}{13.0}$   $\frac{+8.7}{11.0}$   $\frac{0.0}{8.0}$   $\frac{0.0}{8.0}$   $\frac{13.9}{20.0}$

21+20  $\frac{+30.3}{15.6}$   $\frac{0.0}{8.0}$   $\frac{0.0}{8.0}$   $\frac{0.0}{8.0}$   $\frac{+17.3}{16.0}$

+50  $\frac{+30.7}{17.9}$   $\frac{24.2}{15.3}$   $\frac{0.0}{8.0}$   $\frac{23.2}{9.0}$   $\frac{0.0}{9.0}$   $\frac{+18.2}{12.8}$   $\frac{15.7}{19.0}$

+60  $\frac{+34.3}{30.0}$   $\frac{+18.2}{16.0}$   $\frac{0.0}{8.0}$   $\frac{0.0}{8.0}$   $\frac{+15.9}{17.0}$

+80  $\frac{+35.7}{28.0}$   $\frac{0.0}{9.0}$   $\frac{0.0}{8.0}$   $\frac{0.0}{8.0}$   $\frac{+11.6}{13.0}$

+95  $\frac{+26.2}{18.0}$   $\frac{23.5}{13.9}$   $\frac{0.0}{10.0}$   $\frac{14.4}{8.0}$   $\frac{0.0}{8.0}$   $\frac{10.0}{10.8}$   $\frac{+9.0}{12.8}$

+20  $\frac{+21.4}{18.6}$   $\frac{0.0}{12.0}$   $\frac{0.0}{8.0}$   $\frac{0.0}{8.0}$   $\frac{+6.4}{9.0}$

+49  $\frac{+23.2}{23.3}$   $\frac{+14.4}{14.3}$   $\frac{0.0}{9.0}$   $\frac{0.0}{8.0}$

+50

+90  $\frac{+13.0}{12.6}$   $\frac{0.0}{8.5}$   $\frac{0.0}{2.5}$

+75

23

+30  $\frac{5.6}{10.5}$   $\frac{0.0}{8.0}$   $\frac{0.0}{2.0}$



# Re Cross Sections

57

Areas Cub. Yds.

|        |        |
|--------|--------|
| 0.0    | 2.1    |
| 11.20  | 14.5   |
| 41.07  | 9.8    |
| 64.50  | 166.2  |
| 294.22 | 119.7  |
| 352.41 | 259.9  |
| 583.34 | 574.5  |
| 657.65 | 685.0  |
| 575.40 | 662.8  |
| 617.57 | 241.7  |
| 687.58 | 461.5  |
| 558.53 | 263.2  |
| 388.84 | 316.1  |
| 293.90 | 237.0  |
| 180.17 | 17.3   |
| 131.00 | 71.8   |
| 62.92  | 8.6    |
| 30.00  | 19.5   |
| 12.12  | 2.1    |
| 25.92  | 22.0   |
|        | 4174.3 |

# Sec 1

L

C

R

$$23+50$$

$$+7.8$$

$$\underline{11.0}$$

$$0.0$$

$$\underline{8.5}$$

$$0.0$$

$$+73$$

$$+9.4$$

$$\underline{12.0}$$

$$0.0$$

$$\underline{8.0}$$

$$0.0$$

$$\underline{1.0}$$

$$24+25$$

$$+12.0$$

$$\underline{14.2}$$

$$0.0$$

$$\underline{8.0}$$

$$0.0$$

$$\underline{8.0}$$

$$+65$$

$$+14.5$$

$$\underline{15.0}$$

$$0.0$$

$$\underline{8.0}$$

$$0.0$$

$$\underline{6.0}$$

$$+95$$

$$25+10$$

$$+40$$

$$26+35$$

$$+40$$

$$27$$

$$+13.0$$

$$\underline{16.0}$$

$$0.0$$

$$\underline{4.5}$$

$$0.0$$

$$\underline{8.5}$$

add  $2 \times 12 \times 15$

$$+50$$

$$+14.1$$

$$\underline{16.0}$$

$$0.0$$

$$\underline{7.0}$$

$$0.0$$

$$\underline{8.0}$$

$$+4.4$$

$$\underline{10.2}$$

$$28$$

$$+14.1$$

$$\underline{17.0}$$

$$0.0$$

$$\underline{8.5}$$

$$0.0$$

$$\underline{8.0}$$

$$+1.4$$

$$\underline{8.7}$$

$$+35$$

$$+7.6$$

$$\underline{11.8}$$

$$0.0$$

$$\underline{8.0}$$

$$0.0$$

$$\underline{8.0}$$

$$+55$$

$$+65$$

$$29$$

$$+35$$

$$+51.3$$

$$= +53.2$$

$$+95$$



# Re Cross Section

58

|        |        |                               |            |
|--------|--------|-------------------------------|------------|
| 33.43  | 417.43 | Sta 19+80 to 25+40 Total Exp. | 4610.9     |
| 39.16  | 30.9   | In Original Sections          | 3811.4     |
| 106.54 | 140.3  | Slips                         | 799.5      |
| 101.46 | 154.1  |                               |            |
| 32.24  | 74.6   | Haul 2351 met free            |            |
| 42.82  | 20.8   | " 2275 lost "                 |            |
| 0.0    | 15.9   | " 1880 from 21+95 to 25+90 =  | 7425       |
|        |        | " 700 + 21+35 to widen        |            |
|        |        | bank at 26 =                  | 3255       |
|        | 4610.9 | Total Haul =                  | 10680      |
| 0.0    | 0.1    |                               |            |
| 0.80   | 157.3  | Sta 26+35 to 29+95            |            |
| 140.80 | 133    | Total Exp                     | 992.1 @ 4. |
| 185.06 | 301.7  | In Original Sections          | 889.7 "    |
| 129.82 | 291.6  | Slips                         | 102.4 "    |
| 58.12  | 121.8  |                               |            |
| 43.04  | 37.5   | Haul 2231 met free            |            |
| 60.41  | 19.1   | " 79. lost "                  |            |
| 8.80   | 44.9   | " 690 from 27+90 to 30+20 =   | 1720       |
| 0.0    | 3.8    |                               |            |
| 1.38   | 0.3    |                               |            |
| 0.0    | 0.7    |                               |            |
|        | 992.1  |                               |            |

# Section 1

| S+3   | L                    | C                                                      | R                                       |
|-------|----------------------|--------------------------------------------------------|-----------------------------------------|
| 30+50 | $\frac{+120}{28.0}$  | $\frac{+20}{18.5}$ $\frac{+23}{11.0}$ $\frac{00}{100}$ | $\frac{00}{8.0}$ $\frac{-24.0}{38.5}$   |
| +83   | $\frac{+80}{22.0}$   | $\frac{00}{18.5}$                                      | $\frac{00}{8.0}$ $\frac{-19.8}{36.7}$   |
| 31+28 | $\frac{+10.2}{20.0}$ | $\frac{+10}{14.0}$ $\frac{0.0}{8.0}$                   | $\frac{0.0}{12.0}$ $\frac{-16.6}{36.0}$ |
| +35   | $\frac{+6.4}{12.0}$  | $\frac{0.0}{8.0}$ $\frac{+0.5}{10}$ $\frac{00}{15.0}$  | $\frac{00}{15.0}$ $\frac{-16.2}{37.0}$  |
| +65   | $\frac{+8.6}{10.2}$  | $\frac{0.0}{8.0}$                                      | $\frac{0.0}{20.0}$ $\frac{-9.3}{36.0}$  |
| 32    | $\frac{+12.9}{11.2}$ | $\frac{0.0}{8.0}$                                      | $\frac{0.0}{8.0}$ $\frac{+5.0}{9.2}$    |
| +30   | $\frac{+15.7}{11.9}$ | $\frac{0.0}{8.0}$                                      | $\frac{0.0}{8.0}$ $\frac{+7.3}{9.8}$    |
| +75   | $\frac{+17.4}{18.0}$ | $\frac{0.0}{9.0}$                                      | $\frac{0.0}{10.3}$ $\frac{+4.1}{10.3}$  |
| +90   | $\frac{+19.6}{18.7}$ | $\frac{0.0}{8.0}$ $\frac{+13.3}{10.6}$                 | $\frac{0.0}{10.6}$ $\frac{+10.6}{10.6}$ |
| 33+05 | $\frac{+21.3}{31.0}$ | $\frac{0.0}{8.0}$                                      | $\frac{0.0}{11.0}$ $\frac{+12.0}{11.0}$ |
| +18   | $\frac{+17.4}{23.0}$ | $\frac{0.0}{8.0}$ $\frac{+12.6}{10.6}$                 | $\frac{0.0}{10.6}$ $\frac{+10.5}{10.6}$ |
| +30   | $\frac{+12.7}{21.6}$ | $\frac{0.0}{8.0}$                                      | $\frac{0.0}{10.3}$ $\frac{+9.0}{10.3}$  |
| <hr/> |                      |                                                        |                                         |
| +52   |                      |                                                        |                                         |
| 37+30 |                      |                                                        |                                         |
| +35   |                      |                                                        |                                         |
| +85   | $\frac{+14.5}{15.4}$ | $\frac{0.0}{8.2}$                                      | $\frac{0.0}{8.0}$ $\frac{+12.6}{11.2}$  |
| +95   | $\frac{+15.7}{14.5}$ | $\frac{0.0}{8.5}$                                      | $\frac{0.0}{8.0}$ $\frac{+11.3}{10.8}$  |
| 38+30 |                      |                                                        |                                         |
| +60   |                      |                                                        |                                         |
| +70   | $\frac{+11.0}{12.0}$ | $\frac{0.0}{8.0}$                                      | $\frac{0.0}{9.0}$ $\frac{+8.2}{10.8}$   |
| 39    |                      |                                                        |                                         |
| +07   |                      |                                                        |                                         |



# Re Cross Sections

| Area<br>Cut | Cu Yds.<br>Excav | Area<br>Fill                      | Cu Yds<br>Embk | 59                   |
|-------------|------------------|-----------------------------------|----------------|----------------------|
| 100         | 0.8              |                                   |                | 30+50 to 32          |
| 82.23       | 75.9             | 124.50                            | 143.5          | Total Bank 579.5     |
| 42.00       | 72.7             | 110.33                            | 246.5          | Original Spec. 29.54 |
| 51.50       | 14.9             | 206.19                            | 59.3           | Extra 284.1          |
| 28.85       | 56.9             | 113.40                            | 94.0           | Bank was made        |
| 73.53       | 154.2            | 55.80                             | 36.2           | Wider for Laynt      |
| 164.42      | 207.6            | 0.0                               | 579.5          | Crack Road King.     |
| 209.18      | 420.2            | Sta 29+95 to 33+52                |                |                      |
| 295.73      | 173.5            | Total Exc                         |                | 1826.9               |
| 329.42      | 215.3            | Original Sections                 |                | 1386.5               |
| 445.56      | 188.3            | Slips and extra                   |                | 440.4                |
| 336.93      | 135.5            | width for Road                    |                |                      |
| 272.62      | 111.1            | Haul 144.5 west from              |                |                      |
| 0.0         | 1826.9           | " 5524 East "                     |                |                      |
| 0.0         | 0.1              | " 1130 from 32+45 to 34+20 = 1980 |                |                      |
| 2.40        | 26.98            | Sta 31+30 to 39+07 Exc 950.3      |                |                      |
| 288.99      | 105.2            | in Original Sec.                  |                | 889.2                |
| 279.09      | 234.4            | Slips                             |                | 61.1                 |
| 82.55       | 158.4            | Haul 23 west from                 |                |                      |
| 202.62      | 72.9             | " 4.3 East "                      |                |                      |
| 191.14      | 109.1            | " 220 from 37+60 to 35+65 = 430   |                |                      |
| 5.20        | 0.4              | " 703 " 38+50 to 42 = 3870        |                |                      |
| 0.0         | 950.2            | Total haul                        |                | 4300                 |

# Section 1

|      | Original Elevations         | L                 | C                 | R                 |
|------|-----------------------------|-------------------|-------------------|-------------------|
| +30  |                             |                   |                   |                   |
| +20  | $\frac{205}{50}$            | $\frac{259}{40}$  | $\frac{272}{30}$  | $\frac{273}{20}$  |
|      |                             |                   | $\frac{263}{10}$  | $\frac{250}{10}$  |
| +10  | $\frac{238}{50}$            | $\frac{275}{40}$  | $\frac{291}{30}$  | $\frac{286}{20}$  |
|      |                             |                   | $\frac{276}{10}$  | $\frac{252}{10}$  |
| V    | $\frac{256}{50}$            | $\frac{288}{40}$  | $\frac{304}{30}$  | $\frac{301}{20}$  |
|      |                             |                   | $\frac{287}{10}$  | $\frac{273}{10}$  |
| +90  | $\frac{266}{50}$            | $\frac{300}{40}$  | $\frac{311}{30}$  | $\frac{305}{20}$  |
|      |                             |                   | $\frac{293}{10}$  | $\frac{276}{10}$  |
| +80  | $\frac{239}{59}$            | $\frac{291}{50}$  | $\frac{315}{40}$  | $\frac{320}{30}$  |
|      |                             |                   | $\frac{314}{20}$  | $\frac{303}{10}$  |
| +70  | $\frac{250}{58}$            | $\frac{296}{50}$  | $\frac{329}{40}$  | $\frac{331}{30}$  |
|      |                             |                   | $\frac{326}{20}$  | $\frac{309}{10}$  |
| +60  | $\frac{324}{50}$            | $\frac{343}{40}$  | $\frac{348}{30}$  | $\frac{335}{20}$  |
|      |                             |                   | $\frac{320}{10}$  | $\frac{289}{10}$  |
| +50  | $\frac{361}{50}$            | $\frac{365}{40}$  | $\frac{361}{30}$  | $\frac{346}{20}$  |
|      |                             |                   | $\frac{323}{10}$  | $\frac{297}{10}$  |
| +40  | $\frac{382}{50}$            | $\frac{381}{40}$  | $\frac{372}{30}$  | $\frac{350}{20}$  |
|      |                             |                   | $\frac{328}{10}$  | $\frac{297}{10}$  |
| +30  | $\frac{407}{60}$            | $\frac{406}{50}$  | $\frac{399}{40}$  | $\frac{389}{30}$  |
|      |                             |                   | $\frac{387}{20}$  | $\frac{342}{10}$  |
| +20  | R. Slope } $\frac{437}{82}$ | $\frac{443}{70}$  | $\frac{443}{60}$  | $\frac{436}{50}$  |
|      | $\frac{33+52}{1}$           | $\frac{422}{40}$  | $\frac{407}{30}$  | $\frac{386}{20}$  |
|      |                             |                   | $\frac{362}{10}$  | $\frac{348}{10}$  |
| +10  | $\frac{466}{80}$            | $\frac{469}{70}$  | $\frac{469}{60}$  | $\frac{459}{50}$  |
|      |                             |                   | $\frac{453}{40}$  | $\frac{429}{30}$  |
|      |                             |                   | $\frac{397}{20}$  | $\frac{377}{10}$  |
| 1    | $\frac{514}{71}$            | $\frac{511}{70}$  | $\frac{500}{60}$  | $\frac{481}{50}$  |
|      |                             |                   | $\frac{458}{40}$  | $\frac{436}{30}$  |
|      |                             |                   | $\frac{410}{20}$  | $\frac{385}{10}$  |
| +90  | $\frac{551}{74}$            | $\frac{541}{70}$  | $\frac{523}{60}$  | $\frac{499}{50}$  |
|      |                             |                   | $\frac{476}{40}$  | $\frac{442}{30}$  |
|      |                             |                   | $\frac{415}{20}$  | $\frac{390}{10}$  |
| +80  | $\frac{510}{72}$            | $\frac{524}{70}$  | $\frac{540}{60}$  | $\frac{509}{50}$  |
|      |                             |                   | $\frac{483}{40}$  | $\frac{460}{30}$  |
|      |                             |                   | $\frac{423}{20}$  | $\frac{395}{10}$  |
| +70  | R. Slope } $\frac{571}{69}$ | $\frac{556}{60}$  | $\frac{519}{50}$  | $\frac{490}{40}$  |
|      | $\frac{33+05}{1}$           | $\frac{463}{30}$  | $\frac{432}{20}$  | $\frac{394}{10}$  |
|      |                             |                   | $\frac{364}{10}$  |                   |
| +60  | $\frac{581}{660}$           | $\frac{559}{600}$ | $\frac{530}{500}$ | $\frac{500}{400}$ |
|      |                             |                   | $\frac{471}{300}$ | $\frac{434}{200}$ |
|      |                             |                   | $\frac{395}{100}$ | $\frac{363}{100}$ |
| +50  | $\frac{564}{62}$            | $\frac{557}{60}$  | $\frac{538}{50}$  | $\frac{508}{40}$  |
|      |                             |                   | $\frac{474}{30}$  | $\frac{444}{20}$  |
|      |                             |                   | $\frac{405}{100}$ | $\frac{371}{100}$ |
| +40  | $\frac{568}{610}$           | $\frac{539}{500}$ | $\frac{514}{400}$ | $\frac{487}{300}$ |
|      |                             |                   | $\frac{449}{200}$ | $\frac{413}{100}$ |
|      |                             |                   | $\frac{376}{100}$ |                   |
| 0+30 | $\frac{570}{590}$           | $\frac{543}{500}$ | $\frac{532}{400}$ | $\frac{490}{300}$ |
|      |                             |                   | $\frac{446}{200}$ | $\frac{420}{100}$ |
|      |                             |                   | $\frac{386}{100}$ |                   |



Cuts taken out  
Borrow Pit on R Sta 34

60

L

C

R

$$\begin{array}{r} 0.0 \\ 48. \end{array} + \begin{array}{r} 1.0 \\ 46. \end{array} + \begin{array}{r} 4.7 \\ 40. \end{array} + \begin{array}{r} 5.5 \\ 30. \end{array} + \begin{array}{r} 4.8 \\ 20. \end{array} + \begin{array}{r} 1.4 \\ 10. \end{array} 0.0 \quad 158.60$$

29.4

$$\begin{array}{r} 0.0 \\ 58. \end{array} + \begin{array}{r} 4.0 \\ 46. \end{array} + \begin{array}{r} 5.7 \\ 40. \end{array} + \begin{array}{r} 19.3 \\ 30. \end{array} + \begin{array}{r} 7.8 \\ 20. \end{array} + \begin{array}{r} 4.8 \\ 10. \end{array} + \begin{array}{r} 1.6 \\ 10. \end{array} 0.0 \quad 246.60$$

84.3

$$\begin{array}{r} 0.0 \\ 52. \end{array} + \begin{array}{r} 3.8 \\ 47. \end{array} + \begin{array}{r} 7.0 \\ 40. \end{array} + \begin{array}{r} 8.4 \\ 30. \end{array} + \begin{array}{r} 8.2 \\ 20. \end{array} + \begin{array}{r} 1.8 \\ 10. \end{array} + \begin{array}{r} 2.9 \\ 10. \end{array} 0.0 \quad 335.30$$

117.0

$$\begin{array}{r} 0.0 \\ 53. \end{array} + \begin{array}{r} 3.5 \\ 50. \end{array} + \begin{array}{r} 7.4 \\ 40. \end{array} + \begin{array}{r} 7.9 \\ 30. \end{array} + \begin{array}{r} 7.9 \\ 20. \end{array} + \begin{array}{r} 5.8 \\ 10. \end{array} + \begin{array}{r} 2.9 \\ 10. \end{array} 0.0 \quad 341.75$$

125.4

$$\begin{array}{r} 0.0 \\ 55. \end{array} + \begin{array}{r} 4.9 \\ 50. \end{array} + \begin{array}{r} 7.8 \\ 40. \end{array} + \begin{array}{r} 7.7 \\ 30. \end{array} + \begin{array}{r} 7.9 \\ 20. \end{array} + \begin{array}{r} 7.0 \\ 10. \end{array} + \begin{array}{r} 3.0 \\ 10. \end{array} 0.0 \quad 369.75$$

131.8

$$\begin{array}{r} 0.0 \\ 59. \end{array} + \begin{array}{r} 3.4 \\ 50. \end{array} + \begin{array}{r} 6.9 \\ 40. \end{array} + \begin{array}{r} 7.1 \\ 30. \end{array} + \begin{array}{r} 8.4 \\ 20. \end{array} + \begin{array}{r} 1.9 \\ 10. \end{array} + \begin{array}{r} 1.0 \\ 10. \end{array} 0.0 \quad 305.55$$

125.7

$$\begin{array}{r} 0.0 \\ 56. \end{array} + \begin{array}{r} 1.0 \\ 54. \end{array} + \begin{array}{r} 4.9 \\ 50. \end{array} + \begin{array}{r} 6.7 \\ 40. \end{array} + \begin{array}{r} 6.4 \\ 30. \end{array} + \begin{array}{r} 4.8 \\ 20. \end{array} + \begin{array}{r} 1.4 \\ 10. \end{array} 0.0 \quad 240.30$$

110.3

$$\begin{array}{r} 0.0 \\ 60. \end{array} + \begin{array}{r} 1.3 \\ 57. \end{array} + \begin{array}{r} 6.9 \\ 50. \end{array} + \begin{array}{r} 7.5 \\ 40. \end{array} + \begin{array}{r} 5.9 \\ 30. \end{array} + \begin{array}{r} 5.6 \\ 20. \end{array} + \begin{array}{r} 4.1 \\ 10. \end{array} + \begin{array}{r} 1.8 \\ 10. \end{array} 0.0 \quad 337.15$$

116.2

$$\begin{array}{r} 0.0 \\ 60. \end{array} + \begin{array}{r} 3.2 \\ 57. \end{array} + \begin{array}{r} 7.0 \\ 50. \end{array} + \begin{array}{r} 7.4 \\ 40. \end{array} + \begin{array}{r} 6.2 \\ 30. \end{array} + \begin{array}{r} 4.0 \\ 20. \end{array} + \begin{array}{r} 1.0 \\ 10. \end{array} 0.0 \quad 251.50$$

109.0

$$\begin{array}{r} 0.0 \\ 62. \end{array} + \begin{array}{r} 3.8 \\ 60. \end{array} + \begin{array}{r} 6.0 \\ 50. \end{array} + \begin{array}{r} 6.4 \\ 40. \end{array} + \begin{array}{r} 5.8 \\ 30. \end{array} + \begin{array}{r} 6.4 \\ 20. \end{array} + \begin{array}{r} 1.0 \\ 10. \end{array} 0.0 \quad 268.90$$

96.4

$$\begin{array}{r} 0.0 \\ 82. \end{array} + \begin{array}{r} 0.0 \\ 60. \end{array} + \begin{array}{r} 1.3 \\ 65. \end{array} + \begin{array}{r} 2.1 \\ 60. \end{array} + \begin{array}{r} 5.5 \\ 50. \end{array} + \begin{array}{r} 5.4 \\ 40. \end{array} + \begin{array}{r} 4.9 \\ 30. \end{array} + \begin{array}{r} 1.35 \\ 20. \end{array} + \begin{array}{r} 1.0 \\ 10. \end{array} 0.0 \quad 212.65$$

89.2

$$\begin{array}{r} 0.0 \\ 81. \end{array} + \begin{array}{r} 1.5 \\ 80. \end{array} + \begin{array}{r} 0.9 \\ 70. \end{array} + \begin{array}{r} 0.7 \\ 60. \end{array} + \begin{array}{r} 3.4 \\ 50. \end{array} + \begin{array}{r} 4.9 \\ 40. \end{array} + \begin{array}{r} 4.3 \\ 30. \end{array} + \begin{array}{r} 2.6 \\ 20. \end{array} + \begin{array}{r} 1.0 \\ 10. \end{array} 0.0 \quad 176.25$$

72.0

$$\begin{array}{r} 0.0 \\ 77. \end{array} + \begin{array}{r} 7.4 \\ 75. \end{array} + \begin{array}{r} 3.0 \\ 70. \end{array} + \begin{array}{r} 5.9 \\ 60. \end{array} + \begin{array}{r} 3.7 \\ 50. \end{array} + \begin{array}{r} 4.3 \\ 40. \end{array} + \begin{array}{r} 3.1 \\ 30. \end{array} + \begin{array}{r} 3.8 \\ 20. \end{array} + \begin{array}{r} 1.0 \\ 10. \end{array} 0.0 \quad 256.40$$

80.1

$$\begin{array}{r} 1.02 \\ 76. \end{array} + \begin{array}{r} 1.08 \\ 74. \end{array} + \begin{array}{r} 1.00 \\ 70. \end{array} + \begin{array}{r} 6.3 \\ 60. \end{array} + \begin{array}{r} 3.4 \\ 50. \end{array} + \begin{array}{r} 2.2 \\ 40. \end{array} + \begin{array}{r} 1.7 \\ 30. \end{array} + \begin{array}{r} 1.0 \\ 20. \end{array} + \begin{array}{r} 1.0 \\ 10. \end{array} 0.0 \quad 251.10$$

94.0

$$\begin{array}{r} 0.0 \\ 75. \end{array} + \begin{array}{r} 1.31 \\ 72. \end{array} + \begin{array}{r} 1.25 \\ 60. \end{array} + \begin{array}{r} 7.9 \\ 50. \end{array} + \begin{array}{r} 1.1 \\ 40. \end{array} + \begin{array}{r} 2.0 \\ 30. \end{array} + \begin{array}{r} 1.0 \\ 20. \end{array} 0.0 \quad 35.575$$

112.4

$$\begin{array}{r} 0.0 \\ 71. \end{array} + \begin{array}{r} 1.37 \\ 69. \end{array} + \begin{array}{r} 1.17 \\ 60. \end{array} + \begin{array}{r} 1.08 \\ 50. \end{array} + \begin{array}{r} 2.2 \\ 40. \end{array} + \begin{array}{r} 1.0 \\ 30. \end{array} 0.0 \quad 316.50$$

124.5

$$\begin{array}{r} 0.0 \\ 69.0 \end{array} + \begin{array}{r} 1.37 \\ 66. \end{array} + \begin{array}{r} 1.18 \\ 60. \end{array} + \begin{array}{r} 1.04 \\ 50. \end{array} + \begin{array}{r} 3.0 \\ 40. \end{array} + \begin{array}{r} 1.0 \\ 30. \end{array} 0.0 \quad 279.55$$

110.4

$$\begin{array}{r} 0.0 \\ 64.5 \end{array} + \begin{array}{r} 1.10 \\ 62. \end{array} + \begin{array}{r} 6.1 \\ 50. \end{array} + \begin{array}{r} 2.3 \\ 40. \end{array} + \begin{array}{r} 1.0 \\ 30. \end{array} 0.0 \quad 160.65$$

81.6

$$\begin{array}{r} 0.0 \\ 45.0 \end{array} + \begin{array}{r} 2.9 \\ 40. \end{array} + \begin{array}{r} 2.0 \\ 30. \end{array} + \begin{array}{r} 1.0 \\ 20. \end{array} 0.0 \quad 31.60$$

35.6

0.0

5.9

1850.6

Haul 620 yds 200' to fill at Sta 94+95  
= 1240 yds haul

# Section 1

Sta L C R

39+07

+20  $\frac{+108}{330}$   $\frac{00}{200}$   $\frac{00}{80}$

+45  $\frac{+171}{365}$   $\frac{00}{200}$   $\frac{00}{90}$   $\frac{+58}{11.6}$

+60  $\frac{+176}{380}$   $\frac{00}{180}$   $\frac{00}{88}$   $\frac{+64}{10.6}$

+80  $\frac{+142}{415}$   $\frac{00}{235}$   $\frac{00}{84}$   $\frac{+42}{10.0}$

40  $\frac{+68}{240}$   $\frac{00}{155}$   $\frac{00}{80}$

+15

45+42

+50

+95  $\frac{+192}{150}$   $\frac{+73}{135}$   $\frac{+182}{126}$   $\frac{00}{80}$   $\frac{+130}{80}$   $\frac{00}{100}$   $\frac{+40}{150}$   $\frac{+83}{15.0}$

46  $\frac{+211}{150}$   $\frac{+90}{135}$   $\frac{00}{80}$   $\frac{00}{80}$   $\frac{+40}{100}$   $\frac{+9.9}{16.0}$

+25  $\frac{+250}{200}$   $\frac{+227}{137}$   $\frac{+93}{90}$   $\frac{00}{80}$   $\frac{+178}{85}$   $\frac{00}{11.5}$   $\frac{+8.7}{14.0}$   $\frac{+10.6}{21.0}$

+30  $\frac{+289}{270}$   $\frac{+50}{90}$   $\frac{00}{80}$   $\frac{00}{80}$   $\frac{+80}{130}$   $\frac{+120}{180}$

+35  $\frac{+369}{250}$   $\frac{+230}{138}$   $\frac{00}{75}$   $\frac{+181}{85}$   $\frac{00}{8.5}$   $\frac{+144}{11.6}$   $\frac{+8.2}{120}$   $\frac{+120}{180}$

+65  $\frac{+249}{182}$   $\frac{+87}{117}$   $\frac{00}{80}$   $\frac{00}{80}$   $\frac{+120}{160}$

+70  $\frac{+230}{160}$   $\frac{+222}{136}$   $\frac{+98}{110}$   $\frac{00}{80}$   $\frac{+171}{80}$   $\frac{00}{11.4}$

47+20  $\frac{+174}{186}$   $\frac{00}{95}$   $\frac{00}{270}$

+65  $\frac{+100}{130}$   $\frac{00}{90}$   $\frac{00}{150}$

+83  $\frac{+87}{208}$   $\frac{36}{170}$   $\frac{+27}{150}$   $\frac{00}{85}$   $\frac{00}{80}$

48+05



# Recess Section

61

|        |        |                               |        |
|--------|--------|-------------------------------|--------|
| 0.0    |        | Sta 39+07 to 40+15 Total Exp. | 1108.3 |
| 169.83 | 27.2   | in Dry Sections               | 413.5  |
|        |        | Extra mtlth =                 | 694.8  |
| 487.84 | 304.5  | Haul 128.3 East free          |        |
| 489.89 | 271.2  | " 531.6 from 39+65 to 41 =    | 720    |
| 375.61 | 320.6  | " 548.4 39+40 to 43+60 =      | 2300   |
| 82.24  | 169.6  | Total Haul                    | 3020   |
| 0.0    | 15.2   |                               |        |
|        | 1108.3 |                               |        |

|        |        |                              |        |
|--------|--------|------------------------------|--------|
| 0.0    |        | Sta 45+42 to 48+05 Exp       | 2660.2 |
| 212.0  | 2.1    | In Original Sections         | 2071.9 |
| 326.56 | 289.7  | Slips                        | 588.3  |
| 364.51 | 64.0   | Haul 176.2 west free         |        |
| 442.60 | 373.7  | " 184.0 East "               |        |
| 527.28 | 89.8   | " 2300 from 46+60 to 49+60 = | 6900.  |
| 525.76 | 97.5   |                              |        |
| 404.57 | 516.8  |                              |        |
| 376.65 | 72.3   |                              |        |
| 335.61 | 659.5  |                              |        |
| 128.30 | 386.6  |                              |        |
| 88.33  | 72.2   |                              |        |
| 0.0    | 36.0   |                              |        |
|        | 2660.2 |                              |        |

# Section 1

Sta

L

C

R

51+04

+08

+30

+40  $\begin{array}{r} +16.4 \\ 18.0 \end{array}$   $\begin{array}{r} +5.0 \\ 9.3 \end{array}$   $\begin{array}{r} 0.0 \\ 8.0 \end{array}$   $\begin{array}{r} 13.5 \\ 8.0 \end{array}$   $\begin{array}{r} 0.0 \\ 12.0 \end{array}$

+55  $\begin{array}{r} +22.4 \\ 18.0 \end{array}$   $\begin{array}{r} +8.0 \\ 9.0 \end{array}$   $\begin{array}{r} 0.0 \\ 8.3 \end{array}$   $\begin{array}{r} 0.0 \\ 8.0 \end{array}$   $\begin{array}{r} +13.9 \\ 18.0 \end{array}$

+70  $\begin{array}{r} +25.2 \\ 18.5 \end{array}$   $\begin{array}{r} +12.0 \\ 10.3 \end{array}$   $\begin{array}{r} 0.0 \\ 9.6 \end{array}$   $\begin{array}{r} 0.0 \\ 20.3 \end{array}$   $\begin{array}{r} 0.0 \\ 9.0 \end{array}$   $\begin{array}{r} +14.4 \\ 18.5 \end{array}$

+85  $\begin{array}{r} +25.0 \\ 18.0 \end{array}$   $\begin{array}{r} +20.0 \\ 13.0 \end{array}$   $\begin{array}{r} +7.0 \\ 9.0 \end{array}$   $\begin{array}{r} 0.0 \\ 7.5 \end{array}$   $\begin{array}{r} 0.0 \\ 22.0 \end{array}$   $\begin{array}{r} 0.0 \\ 8.5 \end{array}$   $\begin{array}{r} +13.4 \\ 19.0 \end{array}$

52

+309  $\begin{array}{r} +10.0 \\ 23.0 \end{array}$   $\begin{array}{r} 0.0 \\ 9.0 \end{array}$   $\begin{array}{r} 0.0 \\ 8.0 \end{array}$   $\begin{array}{r} 0.0 \\ 9.7 \end{array}$   $\begin{array}{r} +7.0 \\ 12.0 \end{array}$   $\begin{array}{r} +16.2 \\ 19.5 \end{array}$

+20  $\begin{array}{r} +28.0 \\ 16.9 \end{array}$   $\begin{array}{r} +8.0 \\ 9.0 \end{array}$   $\begin{array}{r} 0.0 \\ 7.5 \end{array}$   $\begin{array}{r} 0.0 \\ 22.8 \end{array}$   $\begin{array}{r} 0.0 \\ 10.0 \end{array}$   $\begin{array}{r} +5.0 \\ 11.0 \end{array}$   $\begin{array}{r} +16.0 \\ 18.0 \end{array}$

+35  $\begin{array}{r} +27.2 \\ 19.0 \end{array}$   $\begin{array}{r} 0.0 \\ 7.3 \end{array}$   $\begin{array}{r} 0.0 \\ 9.0 \end{array}$   $\begin{array}{r} 0.0 \\ 20.5 \end{array}$   $\begin{array}{r} +14.6 \\ 20.5 \end{array}$

+67  $\begin{array}{r} +19.1 \\ 14.0 \end{array}$   $\begin{array}{r} 0.0 \\ 8.0 \end{array}$   $\begin{array}{r} 0.0 \\ 11.0 \end{array}$   $\begin{array}{r} 0.0 \\ 15.0 \end{array}$   $\begin{array}{r} +4.2 \\ 15.0 \end{array}$   $11 \times 12 \times 16$

53+10



# Re Cross Sections

62

| Areas  | Cu. Yds.<br>Exc. |                          |                      |
|--------|------------------|--------------------------|----------------------|
| 00     |                  | Sta 51+04 to 53+100      | Total Exc 2886.4 Cu. |
| 16.25  | 0.8              | original sec.            | 2441.9 "             |
|        | 83.4             | Slip                     | 444.5 "              |
| 188.5  | 94.5             |                          |                      |
| 322.01 | 213.3            | Have 506.6 mst far       |                      |
| 446.04 | 267.4            | 2380 from 52+15 to 50+35 |                      |
| 516.72 | 281.7            | = 4280 yds haul          |                      |
| 519.05 | 17.8             |                          |                      |
| 641.64 | 322.4            |                          |                      |
| 554.26 | 442.9            |                          |                      |
| 598.19 | 320.1            |                          |                      |
| 308.35 | 7.8              |                          |                      |
|        | 537.2            |                          |                      |
| 57.65  | 291.1            |                          |                      |
|        | 2886.4           |                          |                      |

# Section 2

| Sta   | L             | C                  | R                 |
|-------|---------------|--------------------|-------------------|
| 54+35 |               |                    |                   |
| +50   |               |                    |                   |
| +90   |               |                    |                   |
| 55    | +11.0<br>13.5 | 00<br>8.0          | 00<br>8.0         |
| +50   | +19.5<br>20.0 | 00<br>8.0          | +7.5<br>13.0      |
| +75   | +20.0<br>16.3 | +5.0 00<br>9.0 7.5 | 00 00<br>8.3 14.0 |
| 56    | +19.0<br>16.0 | +7.0 00<br>9.6 7.5 | +00<br>8.0        |
| +35   | +13.3<br>13.5 | +5.0 00<br>9.4 8.5 | 00<br>8.0         |
| +60   |               |                    | +4.5<br>9.1       |
| +85   |               |                    |                   |

|       |                            |              |
|-------|----------------------------|--------------|
| 57+50 | Slip                       | 2.5 x 8 x 40 |
| 58+55 | Borrow Pit for Top of Fill |              |
| 0     | +5.5<br>12.0               | 00<br>8.0    |
| +25   | +8.0<br>18.0               | 00<br>11.0   |
| +35   | +10.0<br>20.0              | 00<br>9.0    |
| +55   | +9.0<br>17.0               | 00<br>8.0    |
| +60   | 00                         | 00           |



# Re Cross Sections

63

Areas Cubic Yds  
Exc.

|        |        |                                 |            |
|--------|--------|---------------------------------|------------|
| 0.0    | 0.4    | Sta 54+35 to 56+85 Exc.         | 1505.6 cu. |
| 210    | 57.3   | In Original Sections            | 1304.2 "   |
| 75.20  | 33.9   | Slips                           | 201.4 "    |
| 108.09 | 34.98  | Haar 250.3 west from            |            |
| 323.66 | 31.08  | " 71.3 "                        |            |
| 347.63 | 28.45  | " 66.5 from 55+58 to 54 = 1000. |            |
| 266.95 | 27.92  | " 51.9 " 56+10+58+95 = 1450     |            |
| 163.83 | 107.5  | Total Haar = 2450               |            |
| 68.39  | 32.2   |                                 |            |
| 110    | 1505.6 |                                 |            |

|       |      |                              |                         |
|-------|------|------------------------------|-------------------------|
| 13.75 | 29.6 |                              |                         |
| 44.00 | 26.7 | } class 1/3 Lo. R = 51.0 cu. |                         |
| 45.00 | 16.5 |                              |                         |
| 36.00 | 30.0 |                              | 1/3 Solid Rock = 21.5 " |
| 2.0   | 3.3  |                              |                         |
|       | 76.5 |                              |                         |

# Section 2

Sta L C R

63+80

64

$$+30 \quad \begin{array}{r} +20 \\ 104 \end{array} \quad \begin{array}{r} 00 \\ 80 \end{array} \quad \begin{array}{r} 00 \\ 80 \end{array}$$

$$+60 \quad \begin{array}{r} +10.8 \\ 13.0 \end{array} \quad \begin{array}{r} 00 \\ 5.8 \end{array} \quad \begin{array}{r} 00 \\ 8.0 \end{array}$$

$$+85 \quad \begin{array}{r} +9.1 \\ 9.5 \end{array} \quad \begin{array}{r} 00 \\ 6.0 \end{array} \quad \begin{array}{r} 00 \\ 8.0 \end{array}$$

$$65+10 \quad \begin{array}{r} +7.0 \\ 9.8 \end{array} \quad \begin{array}{r} 00 \\ 5.5 \end{array} \quad \begin{array}{r} 00 \\ 3.5 \end{array}$$

$$+35 \quad \begin{array}{r} +8.2 \\ 9.2 \end{array} \quad \begin{array}{r} 00 \\ 7.0 \end{array} \quad \begin{array}{r} 00 \\ 8.0 \end{array}$$

$$+55 \quad \begin{array}{r} +16.1 \\ 10.3 \end{array} \quad \begin{array}{r} +13.5 \\ 10.3 \end{array} \quad \begin{array}{r} 00 \\ 5.5 \end{array} \quad \begin{array}{r} 00 \\ 16.0 \end{array}$$

$$+85 \quad \begin{array}{r} +23.5 \\ 19.2 \end{array} \quad \begin{array}{r} +9.0 \\ 7.2 \end{array} \quad \begin{array}{r} 00 \\ 4.4 \end{array} \quad (+15.5) \quad \begin{array}{r} 00 \\ 11.0 \end{array} \quad \begin{array}{r} +6.2 \\ 18.8 \end{array}$$

$$66 \quad \begin{array}{r} +27.4 \\ 24.2 \end{array} \quad \begin{array}{r} +7.3 \\ 6.5 \end{array} \quad \begin{array}{r} 00 \\ 5.5 \end{array} \quad \begin{array}{r} 00 \\ 10.5 \end{array} \quad \begin{array}{r} +9.6 \\ 16.5 \end{array}$$

$$+15 \quad \begin{array}{r} +29.6 \\ 27.0 \end{array} \quad \begin{array}{r} +6.3 \\ 8.0 \end{array} \quad \begin{array}{r} 00 \\ 5.5 \end{array} \quad (+19.1) \quad \begin{array}{r} 00 \\ 10.5 \end{array} \quad \begin{array}{r} +10.6 \\ 20.5 \end{array}$$

$$+30 \quad \begin{array}{r} +29.5 \\ 22.8 \end{array} \quad \begin{array}{r} +10.6 \\ 18.8 \end{array} \quad \begin{array}{r} +7.6 \\ 9.0 \end{array} \quad \begin{array}{r} 00 \\ 6.0 \end{array} \quad (20.9) \quad \begin{array}{r} 00 \\ 10.0 \end{array} \quad \begin{array}{r} +15.6 \\ 11.9 \end{array}$$

$$+50 \quad \begin{array}{r} +32.2 \\ 24.8 \end{array} \quad \begin{array}{r} +14.0 \\ 17.0 \end{array} \quad \begin{array}{r} +13.0 \\ 11.5 \end{array} \quad \begin{array}{r} 00 \\ 7.0 \end{array} \quad \begin{array}{r} 00 \\ 9.8 \end{array} \quad \begin{array}{r} +13.2 \\ 13.0 \end{array} \quad \begin{array}{r} +15.4 \\ 18.8 \end{array}$$

$$+65 \quad \begin{array}{r} +24.4 \\ 22.8 \end{array} \quad \begin{array}{r} +5.2 \\ 8.0 \end{array} \quad \begin{array}{r} 00 \\ 7.5 \end{array} \quad (+20.4) \quad \begin{array}{r} 00 \\ 9.0 \end{array} \quad \begin{array}{r} +12.4 \\ 18.5 \end{array}$$

$$67 \quad \begin{array}{r} +24.6 \\ 25.6 \end{array} \quad \begin{array}{r} +9.6 \\ 12.6 \end{array} \quad \begin{array}{r} 00 \\ 8.0 \end{array} \quad 0 \quad \begin{array}{r} 00 \\ 9.5 \end{array} \quad \begin{array}{r} +8.0 \\ 17.4 \end{array}$$

$$+25 \quad \begin{array}{r} +15.2 \\ 14.0 \end{array} \quad \begin{array}{r} 00 \\ 9.0 \end{array} \quad (+10.5) \quad \begin{array}{r} 00 \\ 9.0 \end{array} \quad \begin{array}{r} +5.6 \\ 14.5 \end{array}$$

$$+50 \quad \begin{array}{r} +11.1 \\ 14.8 \end{array} \quad \begin{array}{r} 00 \\ 9.0 \end{array} \quad \begin{array}{r} 00 \\ 8.5 \end{array} \quad \begin{array}{r} +5.0 \\ 14.0 \end{array}$$

+70

+80



# Re Cross Sections

64

|        |        |                                   |             |
|--------|--------|-----------------------------------|-------------|
| 32.75  | 31.8   | Sta 63+80 to 67+80                | 3530.7      |
| 53.04  | 63.4   | In Original Section               | 2901.9      |
| 61.11  | 81.0   |                                   | Slips 628.8 |
| 84.62  | 68.4   | Haul 55.5 first free              |             |
| 63.17  | 44.6   | " 121.6 from 64+40 to 59+30 = 620 |             |
| 33.21  | 43.4   | " 253.6 East free                 |             |
| 60.52  | 103.3  | " 3100 from 66+45 to 68+88 = 7440 |             |
| 218.32 | 313.6  | Total haul                        | 8060        |
| 346.60 | 213.6  |                                   |             |
| 422.37 | 292.9  |                                   |             |
| 559.95 | 320.9  |                                   |             |
| 596.14 | 465.4  |                                   |             |
| 660.49 | 337.6  |                                   |             |
| 554.88 | 614.3  |                                   |             |
| 392.91 | 294.5  |                                   |             |
| 243.22 | 189.1  |                                   |             |
| 165.32 | 70.0   |                                   |             |
| 237.0  | 29     |                                   |             |
| 0.0    | 3530.7 |                                   |             |

# Section 2

| Sta                | L | C   | R                                                                      |
|--------------------|---|-----|------------------------------------------------------------------------|
| 67+50              |   |     |                                                                        |
| Borrow Pit on Left |   |     |                                                                        |
| 0                  |   | 0.0 | 0.0                                                                    |
| +10                |   | 0.0 | $\frac{+7.8}{10.0} \frac{+7.0}{16.0} \frac{0.0}{4.0}$                  |
| +20                |   | 0.0 | $\frac{+5.2}{5.0} \frac{+5.6}{12.0} \frac{+1.4}{23.0} \frac{0.0}{3.0}$ |
| +27                |   | 0.0 | 0.0                                                                    |

69+80 Borrow Pit 4x8x12

69+78

+83

70

|     |                      |                        |                                                         |                                                           |
|-----|----------------------|------------------------|---------------------------------------------------------|-----------------------------------------------------------|
| +25 | $\frac{+16.1}{78.0}$ | $\frac{0.0}{10.0}$     |                                                         | $\frac{0.0}{7.0} \frac{+9.2}{11.2}$                       |
| +50 | $\frac{+19.8}{21.0}$ | $\frac{0.0}{8.4}$      |                                                         | $\frac{0.0}{7.0} \frac{+10.8}{12.2}$                      |
| +60 | $\frac{+20.6}{19.0}$ | $\frac{(+17.2)}{12.3}$ | $\frac{+9.0}{14.5} \frac{+20.0}{120.0} \frac{0.0}{8.0}$ | $\frac{0.0}{7.3} \frac{(+11.1)}{10.8} \frac{+10.5}{16.8}$ |
| +75 | $\frac{+19.7}{18.8}$ | $\frac{(+17.0)}{12.2}$ | $\frac{+6.0}{13.5} \frac{+20.0}{140.0} \frac{0.0}{8.0}$ | $\frac{0.0}{7.5} \frac{(+11.0)}{10.0} \frac{+10.0}{15.8}$ |
| 71  | $\frac{+20.4}{23.6}$ | $\frac{+6.0}{15.0}$    | $\frac{+20.0}{11.0} \frac{0.0}{7.6}$                    | $\frac{0.0}{8.0} \frac{+10.7}{17.0}$                      |
| +20 | $\frac{+17.6}{19.4}$ | $\frac{(+14.0)}{15.0}$ | $\frac{+5.0}{9.6} \frac{0.0}{8.0}$                      | $\frac{0.0}{8.0} \frac{(+10.0)}{10.0} \frac{+9.4}{13.3}$  |
| +50 | $\frac{+11.7}{16.7}$ | $\frac{3.0}{9.0}$      | $\frac{5.0}{8.0}$                                       | $\frac{0.0}{8.4} \frac{8.9}{10.2}$                        |
| +80 |                      |                        |                                                         |                                                           |

72

+10



# Recross Sections

65

0.0  
167.40  
96.00  
0.0

31.0

48.8

12.4

92.0

142 dam S.R.

O. is at 8.0 from center track  
center line at 15 to 67+50  
class P.M.  $\frac{1}{3}$  to R. = 30.7  
 $\frac{2}{3}$  S.R. = 61.5

0.0  
21.64  
127.18  
294.43  
352.14  
385.67  
378.06  
412.31  
277.33  
198.74  
44.69  
8.84  
0.0

1.3

46.8

195.2

299.3

136.6

212.1

365.9

255.4

264.5

135.2

19.8

1.1

1933.2

Sta 69+78 to 72+10

Exc

1933.2 C.Y.

In original sec.

1502.3 "

Seips

430.9 "

Haul 429.8 West from

" 353.4 East "

" 240 from 70+50 to 69+30 = 290

" 910 " 71 to 72+75 = 1590

Total Haul = 1880

# Section 2

| Sta             | L                                                         | C   | R                                                           |
|-----------------|-----------------------------------------------------------|-----|-------------------------------------------------------------|
|                 | Ditch on Left 724 to 741                                  |     |                                                             |
| 72+95<br>= 0    | 0.0                                                       | 0.0 |                                                             |
| + 05            | $\frac{0.0}{8.5} + \frac{+1.0}{8.0} + \frac{+1.0}{1.1}$   | 0.0 |                                                             |
| + 20            | $\frac{0.0}{11.5} + \frac{+3.4}{9.5} + \frac{+2.5}{1.0}$  | 0.0 |                                                             |
| + 40            | $\frac{0.0}{13.5} + \frac{+7.0}{10.4} + \frac{5.7}{2.0}$  | 0.0 |                                                             |
| + 65            | $\frac{0.0}{16.5} + \frac{+8.0}{11.5} + \frac{+2.2}{5.5}$ | 0.0 |                                                             |
| + 90            | $\frac{0.0}{13.0} + \frac{+7.1}{11.0} + \frac{+6.6}{5.0}$ | 0.0 |                                                             |
| 1+15            | $\frac{0.0}{11.0} + \frac{+6.0}{8.8} + \frac{+5.8}{3.0}$  | 0.0 |                                                             |
| + 45            | $\frac{0.0}{8.5} + \frac{+2.4}{7.5} + \frac{+2.4}{1.0}$   | 0.0 |                                                             |
| 74+55<br>= 1+60 | 0.0                                                       | 0.0 |                                                             |
| <hr/>           |                                                           |     |                                                             |
| 76              |                                                           |     |                                                             |
| + 05            |                                                           |     |                                                             |
| + 20            |                                                           |     |                                                             |
| + 55            | $\frac{+19.1}{12.8} + \frac{0.0}{7.6}$                    |     | $\frac{0.0}{8.4} + \frac{+14.5}{12.5}$                      |
| + 80            | $\frac{+24.2}{14.1} + \frac{+9.0}{8.6} + \frac{0.0}{8.0}$ |     | $\frac{0.0}{9.0} + \frac{+7.0}{10.4} + \frac{+18.0}{12.5}$  |
| 77              | $\frac{+25.9}{14.5} + \frac{+6.0}{8.0} + \frac{0.0}{7.8}$ |     | $\frac{0.0}{8.0} + \frac{+10.0}{10.0} + \frac{+13.5}{12.0}$ |
| + 25            | $\frac{+22.0}{14.0} + \frac{0.0}{8.0}$                    |     | $\frac{0.0}{7.5} + \frac{+5.0}{9.4} + \frac{+12.0}{13.0}$   |
| + 54            | $\frac{+18.9}{15.6} + \frac{0.0}{8.6}$                    |     | $\frac{0.0}{8.0} + \frac{+6.8}{13.0}$                       |
| + 80            | $\frac{+14.2}{12.0} + \frac{0.0}{8.5}$ add                |     | $\frac{0.0}{9.0} + \frac{+6.0}{11.0}$                       |
| 78+10           | $\frac{+12.7}{11.2} + \frac{0.0}{9.0}$                    |     | $\frac{0.0}{8.5} + \frac{+5.8}{10.5}$                       |



Area

Cu. Yds.  
Excav.

66

Sta 74+95 to 74+55

Exc Ditch on Left 285.8 Cu.

0.0

0.7

7.75

10.4

29.73

36.9

69.89

41.9

85.40

70.0

65.90

53.4

49.52

37.5

18.00

5.0

0.0

285.8

Class  $\frac{1}{2}$  L.R. = 142.9 $\frac{1}{2}$  Solid = 142.9

Haul 140 yds 150 ft = 210

all hauled into fill west-

0.0

0.8

13.38

33.6

107.45

292.7

351.86

362.8

431.94

311.6

409.50

351.4

349.52

335.2

274.64

32  
232.0

207.14

215.3

180.46

402.4

2546.0

2546.0

# Sec. 2

|       | C                                                                                                                        | R                                                                              |
|-------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| 78+40 | $\frac{+27.9}{19.0}$ $\frac{+14.0}{14.0}$ $\frac{+13.0}{13.0}$ $\frac{0.0}{10.5}$                                        | $\frac{0.0}{9.5}$ $\frac{+17.0}{12.3}$                                         |
| +50   | $\frac{+21.2}{15.2}$ $\frac{+18.6}{14.0}$ $\frac{0.0}{10.0}$                                                             | $\frac{0.0}{9.8}$ $\frac{+8.0}{11.0}$ $\frac{+12.6}{15.0}$                     |
| +65   | $\frac{+29.7}{18.0}$ $\frac{+29.2}{15.3}$ $\frac{+18.0}{12.0}$ $\frac{0.0}{9.4}$ $\frac{0.0}{24.6}$                      | $\frac{0.0}{8.6}$ $\frac{19.8}{12.9}$ $\frac{+19.0}{15.0}$                     |
| +75   | $\frac{+30.6}{17.6}$ $\frac{30.6}{15.7}$ $\frac{+18.0}{17.0}$ $\frac{+13.0}{12.0}$ $\frac{0.0}{9.0}$ $\frac{0.0}{25.4}$  | $\frac{0.0}{9.0}$ $\frac{+5.0}{13.8}$ $\frac{20.7}{13.2}$ $\frac{+19.8}{17.5}$ |
| +95   | $\frac{+32.8}{16.2}$ $\frac{+20.0}{12.0}$ $\frac{0.0}{10.0}$ $\frac{0.0}{26.5}$                                          | $\frac{0.0}{8.5}$ $\frac{+8.0}{9.0}$ $\frac{+21.5}{13.4}$ $\frac{19.5}{19.0}$  |
| 79    | $\frac{+34.2}{21.6}$ $\frac{32.3}{16.1}$ $\frac{+16.4}{17.1}$ $\frac{+14.0}{13.1}$ $\frac{0.0}{10.0}$ $\frac{0.0}{26.0}$ | $\frac{0.0}{8.0}$ $\frac{20.8}{13.2}$ $\frac{+19.4}{19.0}$                     |
| +20   | $\frac{+33.4}{21.3}$ $\frac{+6.0}{12.0}$ $\frac{0.0}{10.0}$                                                              | $\frac{0.0}{8.0}$ $\frac{+17.5}{14.0}$                                         |
| +50   | $\frac{+22.1}{13.5}$ $\frac{0.0}{11.0}$                                                                                  | $\frac{0.0}{8.0}$ $\frac{+12.9}{11.2}$                                         |
| +80   | $\frac{+12.0}{11.0}$ $\frac{0.0}{10.0}$                                                                                  | $\frac{0.0}{8.0}$ $\frac{+7.3}{9.8}$                                           |

80

+13

83+25

+62

+90

84+25

+80

85+15

|     |                                                                                                  |                                                          |
|-----|--------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| +35 | $\frac{+13.0}{14.6}$ $\frac{12.6}{11.2}$ $\frac{0.0}{8.0}$ $\frac{0.0}{6.6}$                     | $\frac{0.0}{8.0}$ $\frac{+3.6}{8.9}$                     |
| +50 | $\frac{+18.7}{18.8}$ $\frac{+7.0}{11.0}$ $\frac{0.0}{8.0}$                                       | $\frac{0.0}{8.0}$ $\frac{+5.4}{9.4}$                     |
| +70 | $\frac{+22.2}{19.6}$ $\frac{18.6}{12.7}$ $\frac{+7.3}{9.0}$ $\frac{0.0}{7.5}$ $\frac{0.0}{12.6}$ | $\frac{0.0}{8.0}$ $\frac{7.8}{10.0}$ $\frac{+7.2}{11.2}$ |



# Recross Section

67

|        |        |                           |            |
|--------|--------|---------------------------|------------|
| 54382  | 2546.0 | Sta 76+80+13 Eye          | 5500.1 cu. |
| 36144  | 204.7  | In Original Sec.          | 4946.4     |
| 3193   |        | Slips                     | 553.7      |
| 588.08 | 244.3  | Haul 3042 west from       |            |
| 73101  | 515.9  | " 345.9 "                 |            |
| 662.10 |        | " 950. from 76+85.75+10 = | 1660.      |
| 134.0  |        | " 3900. " 78+65.81+80 =   | 12280.     |
| 78541  |        | Total Haul =              | 13940      |
| 66659  | 5378   |                           |            |
| 38555  | 5845   |                           |            |
| 194.24 | 322.1  |                           |            |
| 36.86  | 85.6   |                           |            |
| 0.0    | 59     |                           |            |
|        | 5500.1 |                           |            |
| 0.0    |        |                           |            |
| 3388   | 155    |                           |            |
| 115.57 | 774    |                           |            |
| 169.60 | 184.8  |                           |            |
| 111.44 | 286.3  |                           |            |
| 90.16  | 130.7  |                           |            |
| 160.95 | 93.0   |                           |            |
| 228.81 | 108.3  |                           |            |
| 276.54 | 187.2  |                           |            |
|        | 1855   |                           |            |
|        | 1268.7 |                           |            |

# Sec. 2

| Sta   | L                                                                                                                      | C                                                                               | R                                     |
|-------|------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|---------------------------------------|
| 85+85 | $\frac{26.4}{270}$ $\frac{20.6}{132}$ $\frac{+4.5}{6.8}$ $\frac{0.0}{6.8}$                                             | $\frac{+10.8}{10.0}$ $\frac{0.0}{10.0}$                                         | $\frac{9.6}{9.4}$ $\frac{+7.0}{15.2}$ |
| +95   | $\frac{+2.50}{230}$ $\frac{24.0}{13.5}$ $\frac{+1.34}{18.0}$ $\frac{+0.00}{9.0}$ $\frac{0.0}{6.8}$                     | $\frac{16.3}{10.6}$ $\frac{0.0}{10.7}$                                          | $\frac{+8.4}{15.2}$                   |
| 86+12 | $\frac{+26.8}{22.5}$ $\frac{+20.0}{17.4}$ $\frac{+10.0}{9.8}$ $\frac{0.0}{7.0}$                                        | $\frac{0.0}{10.0}$                                                              | $\frac{+10.0}{17.8}$                  |
| +35   | $\frac{+27.0}{24.8}$ $\frac{19.0}{18.2}$ $\frac{24.6}{14.2}$ $\frac{+7.9}{10.0}$ $\frac{0.0}{9.4}$                     | $\frac{17.8}{9.3}$ $\frac{0.0}{12.2}$ $\frac{+7.8}{12.5}$ $\frac{+10.0}{15.0}$  |                                       |
| +55   | $\frac{+29.6}{28.4}$ $\frac{25.2}{14.3}$ $\frac{+6.0}{13.0}$ $\frac{0.0}{7.0}$                                         | $\frac{17.6}{10.0}$ $\frac{0.0}{12.6}$ $\frac{+10.0}{18.0}$                     |                                       |
| +70   | $\frac{+32.8}{31.7}$ $\frac{26.0}{14.6}$ $\frac{+16.0}{19.6}$ $\frac{0.0}{7.8}$                                        | $\frac{19.2}{9.0}$ $\frac{0.0}{14.6}$ $\frac{+12.0}{17.0}$                      |                                       |
| +85   | $\frac{+35.0}{29.5}$ $\frac{28.0}{15.0}$ $\frac{+19.2}{20.0}$ $\frac{+10.0}{10.5}$ $\frac{0.0}{7.0}$                   | $\frac{21.4}{9.1}$ $\frac{0.0}{16.0}$ $\frac{+13.0}{12.0}$ $\frac{+15.0}{16.5}$ |                                       |
| 87+05 | $\frac{+37.2}{35.4}$ $\frac{18.6}{24.4}$ $\frac{0.0}{7.3}$                                                             | $\frac{0.0}{9.5}$ $\frac{+14.2}{17.0}$                                          |                                       |
| +25   | $\frac{+34.0}{32.4}$ $\frac{26.2}{14.6}$ $\frac{+10.0}{22.4}$ $\frac{0.0}{9.0}$                                        | $\frac{20.2}{9.0}$ $\frac{0.0}{15.2}$ $\frac{+8.0}{12.0}$ $\frac{+13.0}{14.5}$  |                                       |
| +40   | $\frac{+31.5}{30.5}$ $\frac{23.8}{15.0}$ $\frac{+8.5}{19.5}$ $\frac{0.0}{9.0}$                                         | $\frac{17.6}{8.0}$ $\frac{0.0}{13.0}$ $\frac{+11.1}{11.2}$ $\frac{+15.0}{15.0}$ |                                       |
| +50   | $\frac{+29.2}{29.4}$ $\frac{9.0}{19.0}$ $\frac{0.0}{8.0}$                                                              | $\frac{0.0}{8.0}$ $\frac{+9.4}{13.6}$                                           |                                       |
| +70   | $\frac{+24.4}{27.4}$ $\frac{+13.6}{24.3}$ $\frac{19.2}{12.8}$ $\frac{+9.0}{17.0}$ $\frac{2.0}{14.3}$ $\frac{0.0}{8.0}$ | $\frac{13.2}{8.0}$ $\frac{0.0}{8.0}$ $\frac{+8.0}{10.0}$                        |                                       |
| 88    | $\frac{+17.0}{17.3}$ $\frac{0.0}{8.4}$                                                                                 | $\frac{0.0}{8.0}$ $\frac{+3.0}{11.5}$                                           |                                       |
| +50   |                                                                                                                        |                                                                                 |                                       |
| +80   |                                                                                                                        |                                                                                 |                                       |
| 89+10 |                                                                                                                        |                                                                                 |                                       |



# Re Cross Sec.

68

|        |        |                                   |         |
|--------|--------|-----------------------------------|---------|
| 391.43 | 1268.7 | Sta 83+25 to 89+10 Exc. 62488 Cu. |         |
| 466.33 | 1588   | In Original Sec.                  | 4488.81 |
| 488.57 | 300.6  | Slips                             | 1760.01 |
| 483.58 | 414.1  | Haul 97.7 West face               |         |
| 606.20 | 403.6  | " 201.1 East "                    |         |
| 667.56 | 353.8  | " 180 from 84+05 to 82+95 = 198.  |         |
| 669.85 | 371.5  | " 5770 " 86+80 to 90+10 = 19042   |         |
| 900.45 | 581.6  | Total haul                        | 19240.  |
| 796.18 | 628.4  |                                   |         |
| 659.70 | 404.4  |                                   |         |
| 568.77 | 229.5  |                                   |         |
| 461.10 | 381.4  |                                   |         |
| 216.92 | 376.7  |                                   |         |
| 84.40  | 279.0  |                                   |         |
| 55.99  | 78.0   |                                   |         |
| 0.0    | 20.7   |                                   |         |
|        | 6248.8 |                                   |         |

4.30  
145

# Sec 2 — Borrow Pits

Pit Left Sta 89 — Center Pit taken 8' L of Center of Line

| Sta   | L                                         | C   | Areas  | Cu. Yds. |
|-------|-------------------------------------------|-----|--------|----------|
| 88+40 | 0.0 +10.0<br>13.5 25                      | 0.0 | 67.50  | 1058     |
| +60   | 0.0 +10.0 +8.5<br>31.0 165 20             | 0.0 | 218.02 | 1248     |
| +80   | 0.0 +6.0 +7.0 +2.0<br>21.0 150 110 20     | 0.0 | 119.00 | 40.4     |
| +90   | 0.0 +6.0 +3.5<br>24.0 160 10 00           | 0.0 | 99.30  | 191      |
| +92   | 0.0 +4.0 +5.0 +3.4<br>49.0 32.0 170 10 00 | 0.0 | 175.00 | 88.3     |
| 89+10 | 0.0 +6.8<br>42.0 27.0 00                  | 0.0 | 142.80 | 49.8     |
| +25   | 0.0 +2.0<br>29.0 16.0                     | 0.0 | 36.25  | 2.0      |
| +28   | 0.0 0.0                                   | 0.0 | 0.0    |          |

421.2

Haul 421.2 from 88+80 to 90+20 = 590 Haul

## Borrow Pit on L Sta 91+50

Original Elevations

|              | L                                          | C                      | R                               |
|--------------|--------------------------------------------|------------------------|---------------------------------|
| 92+45<br>= 0 | 69.4 85.0<br>20.0 10.0                     | 86.3 99.3<br>8.3 4.5   | 100.0                           |
| +10          | 73.1 80.2<br>20.0 10.0                     | 86.9 97.0<br>8.6 1.6   | 97.8                            |
| +20          | 70.6 79.8<br>40.0 30.0                     | 72.5 79.5<br>20.0 10.0 | 86.0 97.0<br>8.4 2.0 3.0        |
| +30          | 70.7 70.9<br>40.0 30.0                     | 72.3 78.0<br>20.0 10.0 | 86.4 96.0<br>4.0                |
| +40          | 70.7 70.9<br>40.0 30.0                     | 71.7 76.7<br>20.0 10.0 | 84.1 96.7<br>1.0                |
| +50          | 70.2 70.8<br>40.0 30.0                     | 71.3 71.7<br>20.0 10.0 | 87.0 91.0<br>10.0 1.8           |
| +60          | 70.1 70.3 71.2 71.5<br>40.0 30.0 20.0 10.0 | 71.0                   | 86.9 95.7 99.4<br>10.0 20.0 2.0 |
| +70          | 70.0 69.4 69.4 71.3<br>40.0 30.0 20.0 10.0 | 77.9                   | 88.3 90.3<br>10.0 1.5           |
| +80          | 70.9 70.0 70.5 71.3<br>40.0 30.0 20.0 10.0 | 74.7                   | 85.3 86.3 89.4<br>10.0 1.2 1.3  |
| +90          | 70.5 70.2 70.9<br>30.0 20.0 10.0           | 73.1                   | 82.3 84.3<br>10.0 1.0           |
|              | 71.0 72.6 75.6<br>20.0 10.0 40.0           |                        | 76.9                            |

+10 = 91+35

72.9



Borrow Pit on R 92 to 92+87

Center of Pit 8' R &amp; Center of Line

69

| Stations | C   | R   | Areas  | Cu.Yds. |
|----------|-----|-----|--------|---------|
| 92       | 0.0 | 0.0 | 0.0    | 62.0    |
| +25      | 0.0 | 0.0 | 201.00 | 208.9   |
| +41      | 0.0 | 0.0 | 504.00 | 289.8   |
| +55      | 0.0 | 0.0 | 613.70 | 319.5   |
| +71      | 0.0 | 0.0 | 464.60 | 63.7    |
| +75      | 0.0 | 0.0 | 395.22 | 87.8    |
| +87      | 0.0 | 0.0 | 0.0    | 1031.7  |

Haul 1031.7 from 92+50 to 90+60 = 1960 Haul

Quantities Excavated

| L                                        | C   | R   | Areas  | Cub.Yds. |
|------------------------------------------|-----|-----|--------|----------|
| 0.0 +23.9 +11.6 +11.0 0.0                | 0.0 |     |        |          |
| 26.0 20.0 10.0 8.3 4.5                   |     |     | 289.31 | 88.6     |
| 0.0 +9.2 +8.0 +8.6 0.0                   | 0.0 |     |        |          |
| 26.3 25.0 8.0 5.6 1.6 0.0                |     |     | 189.30 | 85.8     |
| 0.0 +9.0 +11.8 +12.0 +10.4               | 0.0 |     |        |          |
| 27.3 25.0 16.0 15.0 10.0 5.8 2.0 3.0 4.0 |     |     | 273.75 | 107.9    |
| 0.0 1.5 8.1 9.6 9.6 +1.6 0.0             | 0.0 |     |        |          |
| 4.0 3.0 2.5 2.0 10.0 5.5 4.0 5.0         |     |     | 308.75 | 107.3    |
| 0.0 +1.7 +3.5 +7.6 +9.5                  | 0.0 |     |        |          |
| 4.0 3.5 3.0 2.0 10.0 6.5 1.0             |     |     | 270.75 | 123.5    |
| 0.0 +1.9 +6.8 +12.2                      | 0.0 |     |        |          |
| 4.0 3.0 2.0 1.0 1.8 +7.7 0.0             |     |     | 396.30 | 146.0    |
| 0.0 +2.9 +7.1 +12.3                      | 0.0 |     |        |          |
| 3.5 3.0 2.0 1.0 1.2 5.3 +1.9 0.0         |     |     | 392.15 | 136.8    |
| 0.0 4.1 8.5 10.8                         | 0.0 |     |        |          |
| 4.0 3.0 2.0 10.0 +8.1 2.0 2.1 0.0        |     |     | 346.50 | 109.9    |
| 0.0 2.9 5.2 +7.2                         | 0.0 |     |        |          |
| 3.5 3.0 2.0 1.0 1.8 1.6 2.4 0.0          |     |     | 246.95 | 69.5     |
| 0.0 +1.3 +3.9 +1.7 0.0                   | 0.0 |     |        |          |
| 2.5 2.0 1.0 1.1 1.0 1.0                  |     |     | 128.55 | 25.5     |
| 0.0 +0.4 +1.6                            | 0.0 |     |        |          |
| 1.5 1.0 1.0 0.0                          |     |     | 9.60   | 1.8      |
| 0.0                                      | 0.0 | 0.0 | 0.0    | 1002.6   |

Haul 1002.6 from 91+95 to 90+60 = 1350 Haul

# Section 2

Station

L

C

R

91+97

92

+41

|     |                                              |                                           |        |                                           |                                              |
|-----|----------------------------------------------|-------------------------------------------|--------|-------------------------------------------|----------------------------------------------|
| +45 | $\begin{array}{r} +24.7 \\ 14.2 \end{array}$ | $\begin{array}{r} 0.0 \\ 8.0 \end{array}$ | (21.0) | $\begin{array}{r} 0.0 \\ 8.0 \end{array}$ | $\begin{array}{r} +17.0 \\ 12.2 \end{array}$ |
|-----|----------------------------------------------|-------------------------------------------|--------|-------------------------------------------|----------------------------------------------|

|     |                                              |                                              |                                           |                                           |                                              |
|-----|----------------------------------------------|----------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------------------|
| +71 | $\begin{array}{r} +34.3 \\ 16.0 \end{array}$ | $\begin{array}{r} +30.2 \\ 11.0 \end{array}$ | $\begin{array}{r} 0.0 \\ 8.8 \end{array}$ | $\begin{array}{r} 0.0 \\ 8.6 \end{array}$ | $\begin{array}{r} +23.8 \\ 14.0 \end{array}$ |
|-----|----------------------------------------------|----------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------------------|

|     |                                              |                                              |                                              |                                           |                                           |                                              |
|-----|----------------------------------------------|----------------------------------------------|----------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------------------|
| +91 | $\begin{array}{r} +37.0 \\ 22.0 \end{array}$ | $\begin{array}{r} +20.0 \\ 19.0 \end{array}$ | $\begin{array}{r} +16.3 \\ 10.5 \end{array}$ | $\begin{array}{r} 0.0 \\ 7.6 \end{array}$ | $\begin{array}{r} 0.0 \\ 8.0 \end{array}$ | $\begin{array}{r} +22.9 \\ 13.5 \end{array}$ |
|-----|----------------------------------------------|----------------------------------------------|----------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------------------|

93

|  |                                              |        |                                              |                                            |        |                                           |        |                                             |
|--|----------------------------------------------|--------|----------------------------------------------|--------------------------------------------|--------|-------------------------------------------|--------|---------------------------------------------|
|  | $\begin{array}{r} +35.4 \\ 24.6 \end{array}$ | (33.8) | $\begin{array}{r} +22.0 \\ 16.4 \end{array}$ | $\begin{array}{r} 0.0 \\ 12.6 \end{array}$ | (27.2) | $\begin{array}{r} 0.0 \\ 7.2 \end{array}$ | (21.0) | $\begin{array}{r} 13.2 \\ 15.1 \end{array}$ |
|--|----------------------------------------------|--------|----------------------------------------------|--------------------------------------------|--------|-------------------------------------------|--------|---------------------------------------------|

|     |                                              |                                              |                                             |                                           |                                           |                                              |
|-----|----------------------------------------------|----------------------------------------------|---------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------------------|
| +05 | $\begin{array}{r} +36.5 \\ 22.0 \end{array}$ | $\begin{array}{r} +21.4 \\ 18.0 \end{array}$ | $\begin{array}{r} +10.0 \\ 9.5 \end{array}$ | $\begin{array}{r} 0.0 \\ 7.5 \end{array}$ | $\begin{array}{r} 0.0 \\ 7.0 \end{array}$ | $\begin{array}{r} +17.8 \\ 15.2 \end{array}$ |
|-----|----------------------------------------------|----------------------------------------------|---------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------------------|

|     |                                              |                                              |                                           |                                           |                                              |
|-----|----------------------------------------------|----------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------------------|
| +30 | $\begin{array}{r} +24.0 \\ 27.0 \end{array}$ | $\begin{array}{r} +10.0 \\ 18.0 \end{array}$ | $\begin{array}{r} 0.0 \\ 9.5 \end{array}$ | $\begin{array}{r} 0.0 \\ 8.0 \end{array}$ | $\begin{array}{r} +15.4 \\ 13.8 \end{array}$ |
|-----|----------------------------------------------|----------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------------------|

|     |                                              |                                             |                                           |                                           |                                             |
|-----|----------------------------------------------|---------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------------------------|
| +50 | $\begin{array}{r} +20.6 \\ 23.0 \end{array}$ | $\begin{array}{r} +6.0 \\ 15.0 \end{array}$ | $\begin{array}{r} 0.0 \\ 9.7 \end{array}$ | $\begin{array}{r} 0.0 \\ 9.0 \end{array}$ | $\begin{array}{r} +8.0 \\ 13.0 \end{array}$ |
|-----|----------------------------------------------|---------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------------------------|

+65

+75

96+73

+88

97

+25

|     |                                              |                                             |                                           |                                           |                                              |
|-----|----------------------------------------------|---------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------------------|
| +38 | $\begin{array}{r} +24.3 \\ 23.0 \end{array}$ | $\begin{array}{r} +4.0 \\ 10.0 \end{array}$ | $\begin{array}{r} 0.0 \\ 8.0 \end{array}$ | $\begin{array}{r} 0.0 \\ 8.0 \end{array}$ | $\begin{array}{r} +10.0 \\ 11.5 \end{array}$ |
|-----|----------------------------------------------|---------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------------------|

|     |                                              |        |                                              |                                            |        |                                           |        |                                              |
|-----|----------------------------------------------|--------|----------------------------------------------|--------------------------------------------|--------|-------------------------------------------|--------|----------------------------------------------|
| +60 | $\begin{array}{r} +32.4 \\ 34.0 \end{array}$ | (26.8) | $\begin{array}{r} +12.0 \\ 14.7 \end{array}$ | $\begin{array}{r} 0.0 \\ 11.4 \end{array}$ | (21.8) | $\begin{array}{r} 0.0 \\ 8.0 \end{array}$ | (11.0) | $\begin{array}{r} +15.6 \\ 13.3 \end{array}$ |
|-----|----------------------------------------------|--------|----------------------------------------------|--------------------------------------------|--------|-------------------------------------------|--------|----------------------------------------------|

|     |                                              |                                              |                                              |                                           |                                           |                                              |
|-----|----------------------------------------------|----------------------------------------------|----------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------------------|
| +82 | $\begin{array}{r} +39.5 \\ 33.0 \end{array}$ | $\begin{array}{r} +29.0 \\ 28.0 \end{array}$ | $\begin{array}{r} +19.0 \\ 14.0 \end{array}$ | $\begin{array}{r} 0.0 \\ 8.0 \end{array}$ | $\begin{array}{r} 0.0 \\ 8.0 \end{array}$ | $\begin{array}{r} +20.3 \\ 15.6 \end{array}$ |
|-----|----------------------------------------------|----------------------------------------------|----------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------------------|



# Re Cross Sections

Areas Cub Yds  
Excav.

70

0.0

0.8

Sta 91+97 to 93+75 Eave 2863.1

20.38

338.0

In Original Sections  
Slips

2576.7

424.80

64.3

286.4

444.00

511.7

Haul 683.1 East free

618.77

499.6

" 600. west "

730.16

232.5

" 1580 from 92+90 to 91+25 = 2600.

664.59

126.9

705.84

623.6

641.23

358.2

326.09

102.3

422.4

52

0.0

2863.1

0.0

58

31.24

26.4

87.70

151.4

239.34

156.5

410.66

419.9

620.14

597.2

845.64

353.4

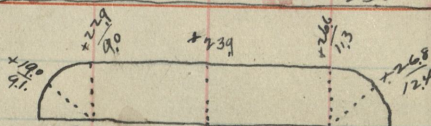
1710.6

# Section 2

Station

|       | L                                        | C                                         | R                                        |
|-------|------------------------------------------|-------------------------------------------|------------------------------------------|
| 97+93 | +430<br>344<br><u>358</u><br>170         | +140 00<br>100 78<br><u>301</u><br>80 150 | 00 250<br>180 170<br><u>180</u><br>170   |
| 98+04 | +459<br>360<br><u>386</u><br>140         | +186 00<br>110 77<br><u>326</u><br>80 149 | +267<br>205<br><u>267</u><br>205         |
| +15   | +490 393<br>380 300<br><u>483</u><br>130 | +186 00<br>88 77<br><u>351</u><br>90 120  | 00 248<br>156 210<br><u>248</u><br>210   |
| +26   | +507 472<br>380 190<br><u>472</u><br>160 | +138 00<br>88 74<br><u>351</u><br>90 125  | +130<br>210<br><u>210</u><br>210         |
| +37   | +534 400<br>400 230<br><u>460</u><br>196 | +165 00<br>100 76<br><u>394</u><br>80 140 | +126 301<br>220 250<br><u>220</u><br>250 |
| +48   | +565 410<br>410 250<br><u>485</u><br>201 | +184 00<br>120 88<br><u>412</u><br>75 100 | +171 362<br>230 250<br><u>230</u><br>250 |
| +59   | +592 410<br>410 260<br><u>482</u><br>132 | +140 00<br>82<br><u>396</u><br>88 160     | +1396<br>260<br><u>260</u><br>260        |
| +69   | +613 470<br>470 210<br><u>483</u><br>190 | +130 00<br>110 80<br><u>447</u><br>85 150 | +130 249<br>180 230<br><u>230</u><br>280 |
| +82   | +646 500<br>500 460<br><u>542</u><br>360 | +340 00<br>210 95<br><u>468</u><br>78 120 | +453<br>230<br><u>230</u><br>230         |
| +92   | +654 480<br>480 400<br><u>584</u><br>240 | +166 00<br>200 110<br><u>484</u><br>82 90 | +184 201<br>201 235<br><u>235</u><br>235 |
| 99+07 | +644 450<br>450 224<br><u>574</u><br>220 | +130 00<br>96 90<br><u>516</u><br>508 80  | +120 528<br>212 230<br><u>230</u><br>230 |
| +11   | +638 400<br>400 225<br><u>580</u><br>170 | +120 00<br>90<br><u>526</u><br>80 90      | +120 536<br>214 238<br><u>238</u><br>238 |
| +19   | +640 380<br>380 170<br><u>425</u><br>170 | +410<br>120<br><u>528</u><br>475 150      | +562<br>210<br><u>210</u><br>190         |
| +30   | +620 300<br>300 70<br><u>475</u><br>70   | +475<br>150<br><u>475</u><br>150          | +594<br>190<br><u>190</u><br>190         |
| +38   | +620 235<br>235<br><u>475</u><br>235     | +589<br>233<br><u>233</u><br>233          | +614<br>233<br><u>233</u><br>233         |

101+16



101+26

|      |     |    |     |     |     |      |
|------|-----|----|-----|-----|-----|------|
| +368 | 380 | 00 | 394 | 00  | 426 | 468  |
| 182  | 90  | 90 | 90  | 90  | 90  | 207  |
| +340 | 220 | 00 | 360 | 00  | 220 | 1440 |
| 200  | 110 | 90 | 90  | 90  | 120 | 250  |
| +282 | 188 | 00 | 305 | 00  | 130 | 355  |
| 170  | 100 | 90 | 90  | 100 | 150 | 280  |



# Re Cross Section

71

889.48

1710.6

401.6

Sta 96+73 to 99+38 Euc. 9062.0<sup>64.</sup>

1082.22

454.3

Original Section

7287.1

1147.98

492.7

Slips

1774.9

1270.67

550.1

Have 294.7 not free.

1429.90

615.6

+ 8900 from 98+55 to 99+50 = 27145.

1592.08

666.7

1680.77

651.6

1837.68

873.6

1790.97

693.5

1954.16

1076.0

1919.47

278.7

1836.33

1440.33

Face of Portal

319.5

716.60

99 + 242 inside END OF Timber

222.4

375.20

55.6

0.0

9062.0

Top of Slope

top of slope

106.6

745.31

134.9

100+97 inside End of timbers

579.25

8 sets Besides Portal

975.25

399.7

Face of PORTAL

901.30

313.6

954.8

all onto beach Portal

# Section 2

|        | L                                     | C                                    | R                                                                         |
|--------|---------------------------------------|--------------------------------------|---------------------------------------------------------------------------|
| 101+54 | $\frac{+22.7}{17.3} \frac{+138}{120}$ | $\frac{00}{88} \textcircled{28.1}$   | $\frac{00}{9.7} \frac{+17.0}{12.0} \frac{+23.0}{17.0} \frac{+28.5}{24.0}$ |
| +65    | $\frac{+14.0}{12.6} \frac{00}{8.6}$   | $\textcircled{+20.0}$                | $\frac{00}{8.4} \frac{+13.0}{12.0} \frac{+28.0}{21.0}$                    |
| +75    | $\frac{+11.4}{10.9} \frac{00}{8.4}$   |                                      | $\frac{00}{8.0} \frac{+15.0}{15.0} \frac{+20.6}{20.6}$                    |
| +81    | $\frac{+6.0}{12.0}$                   | $\frac{00}{9.0} \textcircled{+13.0}$ | $\frac{00}{8.6} \frac{+13.5}{13.3} \frac{+17.3}{19.3}$                    |

102+04

+20

103+55

+65

104

+15

+60

+90

|        |                                         |                                      |                                     |
|--------|-----------------------------------------|--------------------------------------|-------------------------------------|
|        | $\frac{+18.3}{14.5} \frac{+5.0}{13.2}$  | $\frac{00}{9.0} \textcircled{11.8}$  | $\frac{00}{8.5} \frac{+5.0}{13.0}$  |
| 105+15 | $\frac{+23.3}{18.0} \frac{+5.0}{15.0}$  | $\frac{00}{8.0} \textcircled{13.8}$  | $\frac{00}{8.0} \frac{+8.0}{11.0}$  |
| +25    | $\frac{+23.0}{20.0} \frac{+13.0}{12.0}$ | $\frac{00}{8.6} \textcircled{14.3}$  | $\frac{00}{8.0} \frac{+10.0}{10.5}$ |
| +50    | $\frac{+22.2}{16.2} \frac{+12.2}{13.0}$ | $\frac{00}{8.0}$                     | $\frac{00}{8.0} \frac{+10.1}{13.0}$ |
| +60    | $\frac{+21.6}{13.5} \frac{+7.0}{12.0}$  | $\frac{00}{8.5} \textcircled{+15.9}$ | $\frac{00}{8.6} \frac{+10.0}{14.2}$ |
| +70    | $\frac{+21.0}{13.0} \frac{00}{9.7}$     | $\textcircled{+16.0}$                | $\frac{00}{9.0} \frac{+9.1}{15.2}$  |
| +85    | $\frac{+21.5}{13.4} \frac{+6.0}{13.0}$  | $\frac{00}{8.8}$                     | $\frac{00}{9.0} \frac{+9.4}{14.0}$  |

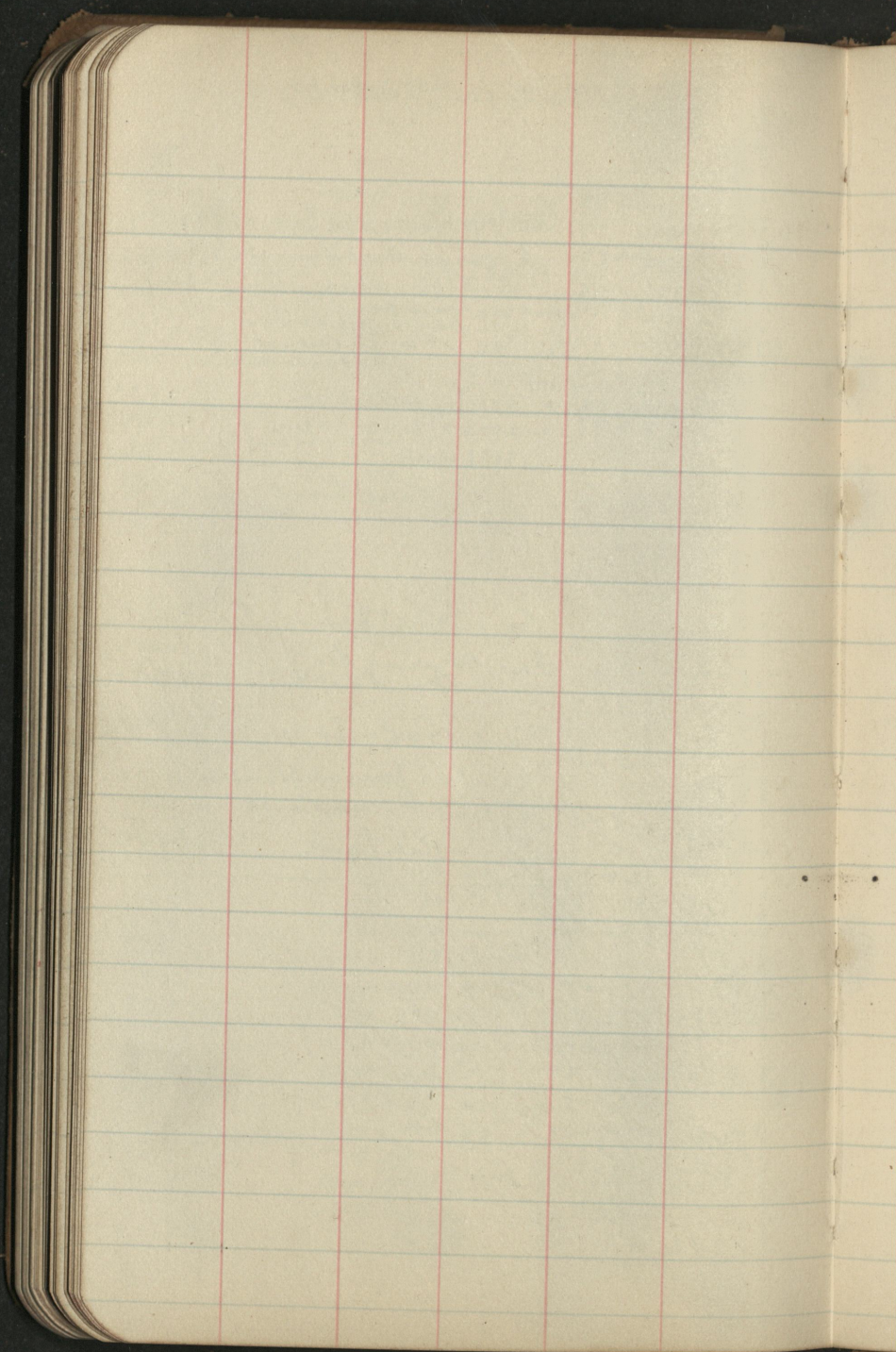


# Re Cross Sections

72

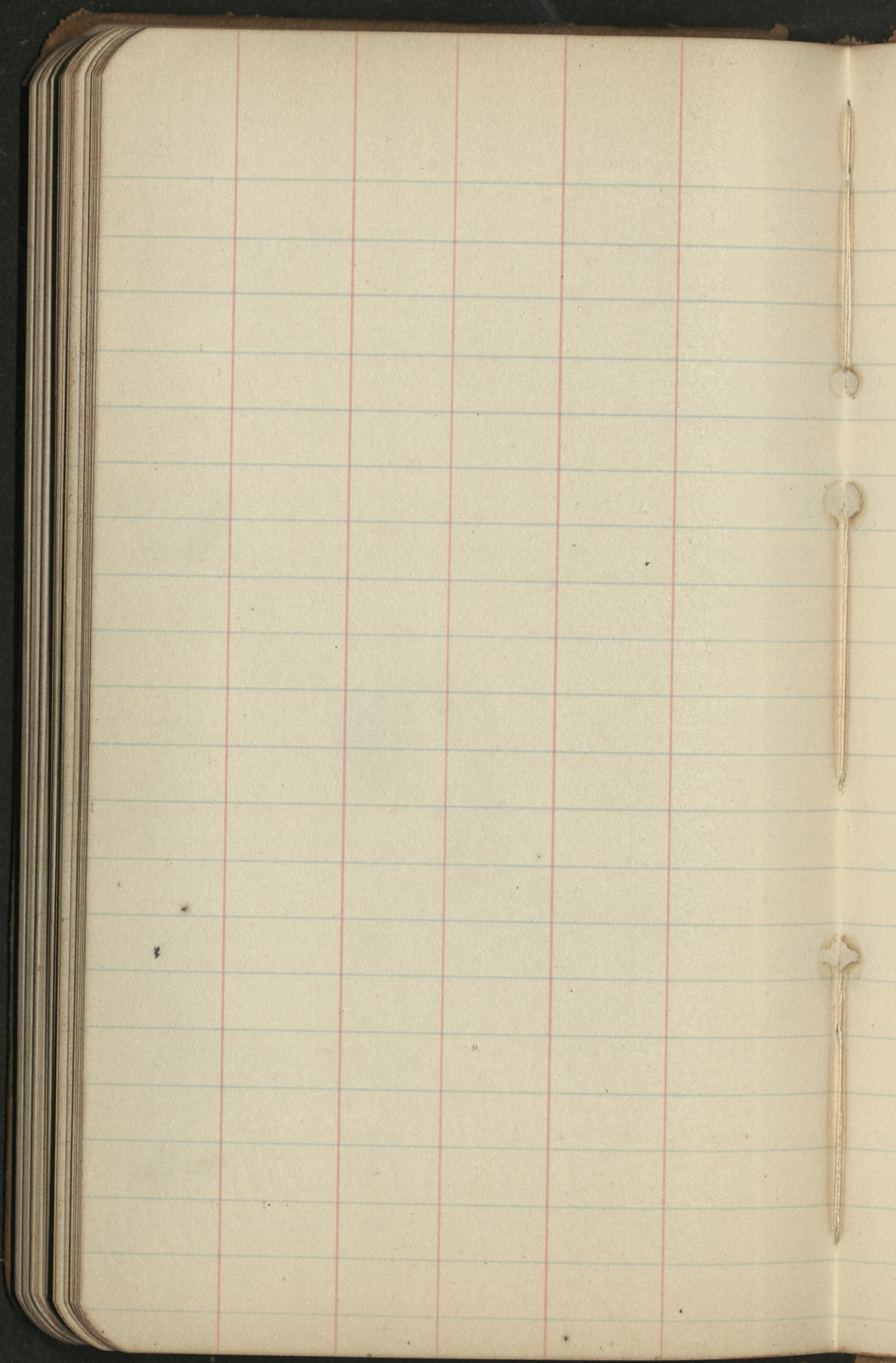
|        |        |                                     |         |
|--------|--------|-------------------------------------|---------|
| 30 785 |        |                                     |         |
| 70 240 |        |                                     |         |
| 280    |        |                                     |         |
| 210    |        |                                     |         |
| 6      |        |                                     |         |
| 6      |        |                                     |         |
| 3      |        |                                     |         |
| 3      |        |                                     |         |
| 638.07 | 954.8  | Sta 101+65 to 102+20 Exp 1559.2 Cy. |         |
| 482.30 | 228.2  | In Orig. Sections                   | 15228 " |
|        |        | Slips                               | 36.4 "  |
| 352.43 | 154.6  | Haul 2625 East fork                 |         |
|        |        | " 100. from 101+70 to 102+85 =      | 115.    |
|        | 69.5   | " 95. " 101+60 " Cart road          |         |
|        |        | at 96+50 of line =                  | 703.    |
| 273.27 |        | " 581. " 101+50 to 91 =             | 7989.   |
|        | 140.8  | " 272.3 " 101+35 " 109+45 =         | 2205.   |
| 57.25  |        | 286.8 Waste                         |         |
|        | 11.3   |                                     |         |
| 0.0    | 1559.2 | Total Haul                          | 11012.  |

|        |        |                                     |          |
|--------|--------|-------------------------------------|----------|
| 0.0    |        |                                     |          |
| 500    | 0.6    | Sta 103+55 to 105+85 Exp 1727.5 Cy. |          |
|        |        | In Original Sec                     | 1510.5 " |
|        | 36.7   | Slips                               | 217.0 "  |
| 57.68  |        | Haul 1225 West fork                 |          |
| 62.61  | 31.4   | " 300. from 104+65 to 103+25 =      | 420      |
| 162.58 | 187.5  | " 130.5 " 105+35 to 110 =           | 6070     |
|        |        | Total haul                          | 6490     |
|        | 243.3  |                                     |          |
| 275.38 |        |                                     |          |
| 381.85 | 304.3  |                                     |          |
|        | 130.3  |                                     |          |
| 321.98 |        |                                     |          |
| 364.86 | 318.0  |                                     |          |
|        | 136.9  |                                     |          |
| 374.61 | 133.7  |                                     |          |
| 347.40 |        |                                     |          |
|        | 204.5  |                                     |          |
| 388.82 | 1727.5 |                                     |          |



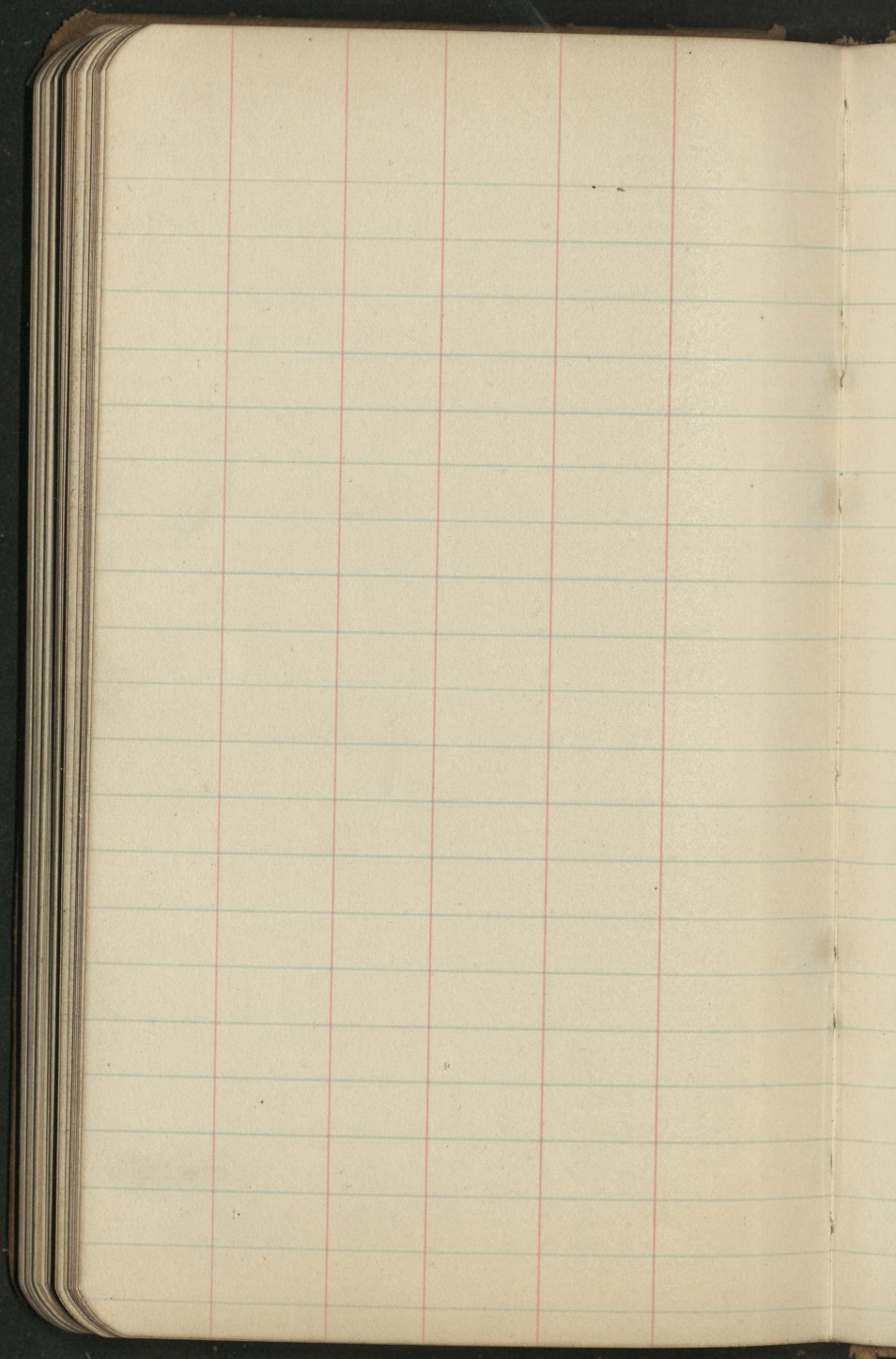








74-





75

# REFERENCE POINTS L C R

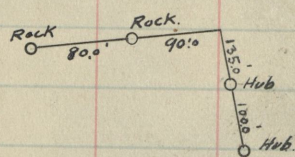
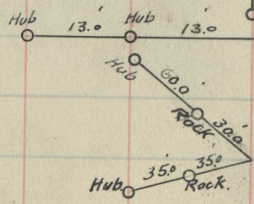
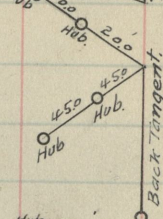
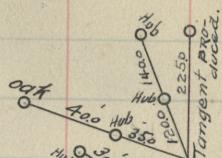
24+633 PT. 16° L.

19+307 PT. 16° R.

15+73 P.S. 9X10 L

14+81<sup>5</sup> PT. 8° L.

12+79 P.C. 8° L



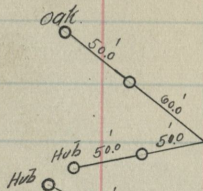


# REFERENCE POINTS

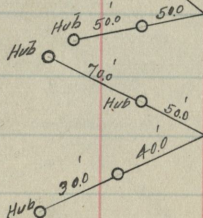
L C R

76

53+63 P.C. 12°L

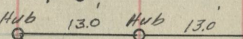


52+67 P.S. 8x12L

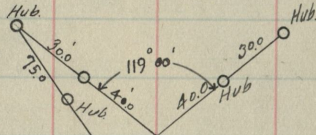


48+39 P.T. 4°L

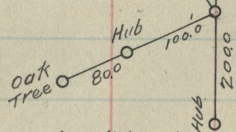
B.M.  
5993.44



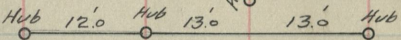
45+59 P.C. 4°L



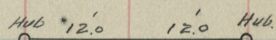
44+10<sup>±</sup> P.T.



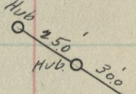
39+99 P.S. 9x12R



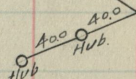
36+65<sup>±</sup> P.T. 6°R



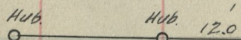
33+72 P.C. 6°R (OUT)



32+75 P.T. 6°L

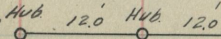


30+25 P.C. 6°L



29+53<sup>±</sup> F.O.R. =

29+51<sup>±</sup> Back P.T. 10°R







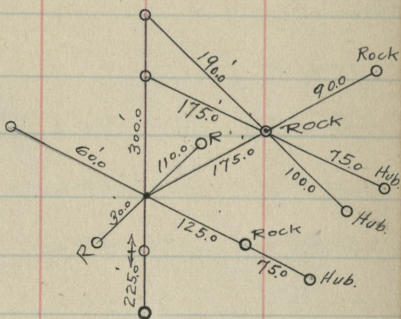
# REFERENCE POINTS

L C R 77

105+58 PS 9x10L

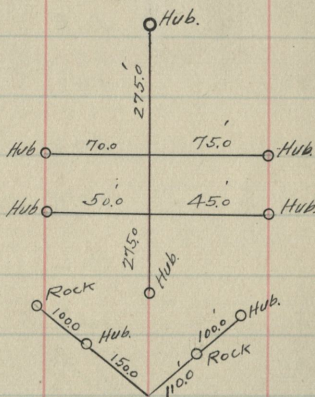
105+48<sup>1</sup> P.T. 18°R

104+27<sup>1</sup> PSC 11x11R



97+38 PSC 11x11R

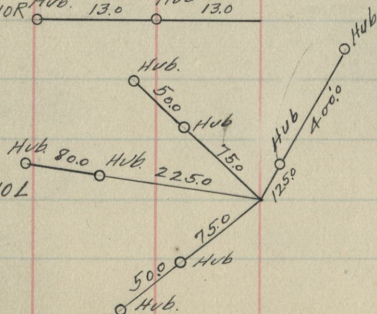
96+14<sup>1</sup> P.T. 16°R



95+24<sup>1</sup> PSC 9x10R

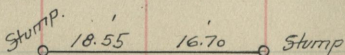
92+01 PSC 9x10R

Hub 13.0 Hub 13.0



90+79 PSC 9x10L

84+79 P.C. 16°L



# BENCH MARKS

| Station |                | Elevation |
|---------|----------------|-----------|
| 11+40   | 50' R on Hub   | 6135.00   |
| 18      | 70' L "        | 6104.37   |
| 23      | 10' L "        | 6085.83   |
| 38+85   | 30' L "        | 6034.37   |
| 51      | 40' L "        | 5975.79   |
| 67+25   | 50' R "        | 5915.75   |
| 71+80   | 50' L "        | 5907.90   |
| 73+75   | 30' L "        | 5891.87   |
| 80+25   | 50' R On Stump | 5869.18   |
| 96+75   | 12' L " Hub    | 5815.81   |
| 102     | 14' R " Rock   | 5800.40   |
| 104     | 15' L " Hub    | 5803.05   |



tion

500

4.37

5.83

4.37

5.79

5.75

7.90

5.87

18

81

40

05

78

Transit Notes 0-2+85 to 12+79

0-2+85 End of Line

0-2+40 P.C.

16° C. R. Ang. 20°

0-1+15 P.T.

0-2.6 = 0 Poland Spur.

0+70 = 0 Siding on Spur.

2+11 P.C.

8° C. R. A. 13°30'

3+48 = 0 Turntable Spur.

3+79.8 P.T.

6+25.6 = 0 Mill Spur.

8+86.6 Back = 8+91.6 P.C. ahead

7° C. R. A. 14°28'

11+41.7 P.T.

12+79 P.C.



Transit Notes Poland Spur. 79

0+26 Main Line = 0 P.C.

15° C.L. A. 90°

0+60 P.T.

1+50 P.C.

16° C.L. A. 19° 12'

2+70 P.T.

4+73½ P.C.

8° C.R. A. 60°

5+48½ P.T.

6+30 = 5+40½ Siding

7+90 E.R.D.

Transit Notes of Siding on Poland Spur

C 0+70 Main Line = 0 Siding

C 0 P.C.

15° C.L. A 9° 0'

C 0+60 P.C.C.

15° 50' C.L. A. 19° 0'

C 1+80 P.T.

3+47<sup>2</sup> P.C.

3° C.L. A. 3° 0'

A 4+47<sup>2</sup> P.T.A 4+80<sup>5</sup> P.C.

3 15° C.R. A 9° 0'

5+40<sup>5</sup> P.T. = 6+30 Spur.C Mill Spur - Poland6+25<sup>6</sup> Main Line = 0 P.C.

8 15° C.L. A 22° 0'

1+46<sup>3</sup> P.T.

1+85 P.C.

1 8° C.R. A 9° 30'

3+01<sup>8</sup> P.T.

4+90 End.



pur

